



# Student Checklist (1A)

This form is required for ALL projects.

- 1) a. Student/Team Leader: \_\_\_\_\_ Grade: \_\_\_\_\_  
Email: \_\_\_\_\_ Phone: \_\_\_\_\_  
b. Team Member: \_\_\_\_\_ c. Team Member: \_\_\_\_\_
- 2) Title of Project: \_\_\_\_\_  
\_\_\_\_\_
- 3) School: \_\_\_\_\_ School Phone: \_\_\_\_\_  
School Address: \_\_\_\_\_  
\_\_\_\_\_
- 4) Adult Sponsor: \_\_\_\_\_ Phone/Email: \_\_\_\_\_
- 5) Is this a continuation from a previous year?  Yes  No  
**If Yes:**  
a) Attach the previous year's  **Abstract**  **Form 1A** and  **Research Plan**  
b) Explain how this project is new and different from previous years on  **Continuation Form (7)**
- 6) **This year's** laboratory experiment/data collection will begin: (must be stated (mm/dd/yy))  
Projected Start Date: \_\_\_\_\_ Projected End Date: \_\_\_\_\_  
(Projected dates are required for projects that require SRC/IRB prior review)  
ACTUAL Start Date: \_\_\_\_\_ ACTUAL End Date: \_\_\_\_\_
- 7) Where will you conduct your experimentation? (check all that apply)  
 Research Institution  School  Field  Home  Other: \_\_\_\_\_
- 8) List name and address of all non-school work site(s):  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
Phone: \_\_\_\_\_
- 9) **Complete a Research Plan as described on page 31 and attach to this form.**
- 10) **An abstract is required for all projects after experimentation (see page 28).**

# Research Plan

**REQUIRED for ALL Projects Before Experimentation**  
**A complete research plan must accompany Checklist for Student (1A)**

Provide a typed research plan and attach to Student Checklist (1A).

The research plan for ALL projects is to include the following:

**A. Question being addressed**

**B. Hypothesis/Problem/Engineering Goals**

**C. Description in detail of method or procedures** (The following are important and key items that should be included when formulating ANY AND ALL research plans.)

- **Procedures:** Detail all procedures and experimental design to be used for data collection
- **Data Analysis:** Describe the procedures you will use to analyze the data that answer research question or hypothesis

**D. Bibliography:** List at least five (5) major references (e.g. science journal articles, books, internet sites) from your literature review. If you plan to use vertebrate animals, one of these references must be an animal care reference.

- Choose one style and use it consistently to reference the literature used in the research plan
- Guidelines can be found in the Student Handbook.

These are guidelines and should be followed where applicable. \*Refer to Items 1-4 below.

**1. Human subjects research** (See instructions on p. 13 of the International Rules):

- Detail all procedures, include what the participants are asked to do (see p. 13)
- Describe Risk Assessment process and how risks will be minimized
  - Include strategies used to protect privacy and confidentiality
- Describe Study Sample/Human Subjects
  - Number of human subjects and estimated demographics (may include information such as: age, male/female, cultural background breakdown, socio-economic status)
  - Recruitment procedures (where and how subjects are recruited)
  - Procedures for obtaining informed consent must include statement about informing potential human subjects about voluntary nature of participation and right to withdraw at any time
- Include survey or questionnaires if used, and critically evaluate the risk
  - List and describe the measures (questionnaires, surveys) used and how you measure the variable of interest (behavioral observations, time, length). Attach the questionnaire/survey
  - Consider emotional stress and potential consequences
- Describe any physical activities or procedures, if used, and critically evaluate the risks
  - Type, duration of exercise or physical activity
  - Ingestion method, amount, intervals, etc.

**2. Vertebrate animal research** (See instructions on p.17 of the International Rules):

- Briefly discuss **POTENTIAL ALTERNATIVES** and present a detailed justification for use of vertebrate animals
- Explain potential impact or contribution this research may have
- Detail all procedures to be used
  - Include methods used to minimize potential discomfort, distress, pain and injury to the animals during the course of experimentation
  - Detailed chemical concentrations and drug dosages
- Detail animal numbers, species, strain, sex, age, etc.
  - Include justification of the numbers planned for the research
- Describe housing and oversight of daily care
- Discuss disposition of the animals at the termination of the study

**3. Potentially Hazardous Biological Agents** (See instructions on p.21 of the International Rules):

- Describe Biosafety Level Assessment process and resultant BSL determination
- Give source of agent, source of specific cell line, etc.
- Detail safety precautions
- Discuss methods of disposal

**4. Hazardous Chemicals, Activities & Devices** (See instructions on p.25 of the International Rules):

- Describe Risk Assessment process and results
- Detail chemical concentrations and drug dosages
- Describe safety precautions and procedures to minimize risk
- Discuss methods of disposal

# 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 will abide by the following Ethics statement

**Scientific fraud and misconduct are not condoned at any level of research or competition. Such practices include 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 or the ISEF.**

\_\_\_\_\_  
Student's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date Acknowledged  
(Must be prior to experimentation.)

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

\_\_\_\_\_  
Parent/Guardian's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval  
(Must be prior to experimentation.)

## 2) To be completed by the 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** and all the required forms are included. My signature indicates approval of the **Research Plan** before the student begins experimentation.

\_\_\_\_\_  
SRC/IRB Chair's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval  
(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 required institutional approvals (e.g. IACUC, IRB)**

\_\_\_\_\_  
SRC Chair's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval

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

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

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

\_\_\_\_\_  
Regional SRC Chair's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval

\_\_\_\_\_  
State/National SRC Chair's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval

(where applicable)

# Regulated Research Institutional/Industrial Setting Form (1C)

This form must be completed after experimentation by the adult supervising the student research conducted in a regulated research institution, industrial setting or any work site other than home, school or field.

This form MUST be displayed with your project.

Student's Name \_\_\_\_\_

Title of Project \_\_\_\_\_

## To be completed by the Supervising Adult in the Setting (NOT the Student) after experimentation:

(Please provide your responses on this form)

The student conducted research at my work site:

- a)  to use the equipment                      b)  to perform experiment(s)/conduct research

1) How did the student get the idea for her/his project?

(e.g. Was the project assigned, picked from a list, an original student idea, etc.)

2) Were you made aware of the ISEF rules before experimentation?       Yes       No

3) Did the student work on the project as a part of a research group?       Yes       No

If yes, how large was the group and what kind of research group was it (students, group of adult researchers, etc.)

4) What specific procedures or equipment did the student actually use and how independently did the student work?

Please list and describe. (Do not list procedures student **only** observed.)

*Student research projects dealing with human subjects, vertebrate animals or potentially hazardous biological agents require review and approval by an institutional regulatory board (IRB/IACUC/IBC). **Copy of approval(s) must be attached, if applicable.***

\_\_\_\_\_  
Supervising Adult's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Title

\_\_\_\_\_  
Institution

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Address

\_\_\_\_\_  
Email/ Phone

## Qualified Scientist Form (2)

May be required for research involving human subjects, vertebrate animals, potentially hazardous biological agents, and DEA-controlled substances. Must be completed and signed before the start of student experimentation.

Student's Name \_\_\_\_\_

Title of Project \_\_\_\_\_

### To be completed by the Qualified Scientist:

Scientist Name: \_\_\_\_\_

Educational Background: \_\_\_\_\_ Degree(s): \_\_\_\_\_

Experience/Training as relates to the student's area of research:  
\_\_\_\_\_

Position: \_\_\_\_\_ Institution: \_\_\_\_\_

Address: \_\_\_\_\_ Email/Phone: \_\_\_\_\_

1) Have you reviewed the ISEF rules relevant to this project?  yes  no

2) Will any of the following be used?

a) Human subjects . . . . .  yes  no

b) Vertebrate animals . . . . .  yes  no

c) Potentially hazardous biological agents (microorganisms, rDNA and tissues, including blood and blood products) . . . . .  yes  no

d) DEA-classed substances. . . . .  yes  no

3) Will you directly supervise the student? . . . . .  yes  no

a. If no, who will directly supervise and serve as the Designated Supervisor? \_\_\_\_\_

b. Experience/Training of the Designated Supervisor: \_\_\_\_\_

4) Describe the safety precautions and training necessary for this project:

### To be completed by the Qualified Scientist:

I certify that I have reviewed and approved the **Research Plan** prior to the start of the experimentation. If the student or Designated Supervisor is not trained in the necessary procedures, I will ensure her/his training. I will provide advice and supervision during the research. I have a working knowledge of the techniques to be used by the student in the **Research Plan**. I understand that a Designated Supervisor is required when the student is not conducting experimentation under my direct supervision.

\_\_\_\_\_  
Qualified Scientist's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval

### To be completed by the Designated Supervisor when the Qualified Scientist cannot directly supervise.

I certify that I have reviewed the **Research Plan** and have been trained in the techniques to be used by this student, and I will provide direct supervision.

\_\_\_\_\_  
Designated Supervisor's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval

\_\_\_\_\_  
Phone

\_\_\_\_\_  
Email

## Risk Assessment Form (3)

Required for projects using hazardous chemicals, activities or devices.

Must be completed before experimentation.

Student's Name \_\_\_\_\_

Title of Project \_\_\_\_\_

**To be completed by the Student Researcher in collaboration with Designated Supervisor/Qualified Scientist:**

(All questions must be answered; additional page(s) may be attached.)

1. List/identify the hazardous chemicals, activities, devices or microorganisms that will be used.

2. Identify and assess the risks involved.

3. Describe the safety precautions and procedures that will be used to reduce the risks.

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

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

**To be completed and signed by the Designated Supervisor (or Qualified Scientist, when applicable):**

I agree with the risk assessment and safety precautions and procedures described above. I certify that I have reviewed the **Research Plan** and will provide direct supervision.

\_\_\_\_\_  
Designated Supervisor's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Review  
(must be prior to experimentation.)

\_\_\_\_\_  
Position & Institution

\_\_\_\_\_  
Phone or email contact information

\_\_\_\_\_  
Experience/Training as relates to the student's area of research

# Human Subjects Form (4)

Required for all research involving human subjects. IRB approval required before experimentation.

Student's Name \_\_\_\_\_

Title of Project \_\_\_\_\_

## To be completed by Student Researcher in collaboration with the Designated Supervisor/Qualified Scientist:

(All questions must be answered; additional page may be attached.)

- 1) Describe the purpose of this study and list all of the research procedures in which the subject will be involved. Include the duration of the subject's involvement. Attach any survey or questionnaire.
- 2) Describe and assess any potential risk or discomfort, and, if any, potential benefits (physical, psychological, social, legal or other) that may be reasonably expected by participating in this research.
- 3) Describe the procedures that will be used to minimize risk, to obtain informed consent and/or assent, and to maintain confidentiality.

For questions or concerns regarding this research, contact: \_\_\_\_\_ at \_\_\_\_\_.  
Adult Sponsor Email/phone

## To be completed by Institutional Review Board (IRB) prior to experimentation: Determination of risk, including physical and psychological risks (See risk evaluation, p. 14.) MUST CHECK ONE OF THE BOXES

- Minimal risk where informed consent is recommended, but not required.** Justification for waiver of informed consent for research with subjects under 18 years of age: \_\_\_\_\_
- Minimal risk where informed consent is REQUIRED.**
- More than minimal risk where informed consent & a Qualified Scientist are REQUIRED**

## IRB SIGNATURES (All three signatures are required; Adults supervising this project may not serve on the IRB reviewing this project; it is a conflict of interest.)

1) **Medical Professional:** (*MUST circle one*) (a psychologist, psychiatrist, medical doctor, licensed social worker, physician's asst., or registered nurse)

Printed Name (including title) \_\_\_\_\_ Signature \_\_\_\_\_ Date of Approval \_\_\_\_\_

2) **Science Educator:**

Printed Name \_\_\_\_\_ Signature \_\_\_\_\_ Date of Approval \_\_\_\_\_

3) **School Administrator:**

Printed Name \_\_\_\_\_ Signature \_\_\_\_\_ Date of Approval \_\_\_\_\_

## To be completed by Human Subject:

( prior to participation)

Printed Name \_\_\_\_\_

- I have read and understand the conditions and risks above  
yes no and I consent/assent to voluntarily participate in this  
research study.
- I realize I am free to withdraw my consent and to  
yes no withdraw from this study at any time without negative  
consequences.
- I consent to the use of visual images (photos, videos,  
yes no etc.) involving my participation in this research.

Signature \_\_\_\_\_ Date \_\_\_\_\_

## To be completed by Parent/Guardian:

(Prior to participation and when participant is under 18 and informed consent is required)

Printed Name \_\_\_\_\_

- I have read and understand the conditions and risks above  
yes no and consent to the participation of my child.
- I have reviewed a copy of any survey or questionnaire  
yes no used in the research.
- I consent to the use of visual images (photos, videos, etc.)  
yes no involving my child in this research.

Signature \_\_\_\_\_ Date \_\_\_\_\_

# Vertebrate Animal Form (5A)

Required for all research involving vertebrate animals that is conducted in a Non-Regulated Research Site.  
(SRC approval required before experimentation.)

Student's Name \_\_\_\_\_

Title of Project \_\_\_\_\_

## To be completed by Student Researcher:

1. Common name (or Genus, species) and number of animals used.
2. Describe completely the housing and husbandry to be provided. Include the cage/pen size, number of animals per cage, environment, bedding, type of food, frequency of food and water, how often animal is observed, etc.
3. What will happen to the animals after experimentation?

## To be completed by Scientific Review Committee (SRC) BEFORE experimentation

### Level of Supervision Required for agricultural, behavioral or nutritional studies:

- Designated Supervisor REQUIRED. Please have applicable person sign below.
- Veterinarian and Designated Supervisor REQUIRED. Please have applicable persons sign below.
- Veterinarian, Designated Supervisor and Qualified Scientist REQUIRED. Please have applicable persons sign below and have the Qualified Scientist complete Form (2).

The SRC has carefully reviewed this study and finds it is an appropriate study that may be conducted in a non-regulated research site.

### SRC Pre-Approval Signature:

\_\_\_\_\_  
SRC Chair Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval

### To be completed by Veterinarian:

- I certify that I have reviewed this research and animal husbandry with the student before the start of experimentation.
- I certify that I will provide veterinary medical and nursing care in case of illness or emergency.

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Email/Phone

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval

### To be completed by Designated Supervisor:

- I certify that I have reviewed this research and animal husbandry with the student before the start of experimentation and I accept primary responsibility for the care and handling of the animals in this project.
- I certify that I will directly supervise the experiment.

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Email/Phone

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval

# Vertebrate Animal Form (5B)

**Required for all research involving vertebrate animals that is conducted at a Regulated Research Institution.  
(IACUC approval required before experimentation.)**

Student's Name \_\_\_\_\_

Title of Project \_\_\_\_\_

Title and Protocol Number of IACUC Approved Project \_\_\_\_\_

**To be completed by Qualified Scientist or Principal Investigator:**

1. Was this a student-generated idea or was it a subset of your work?
  
2. Have you reviewed the ISEF Rules relevant to this project?
  
3. What laboratory training, including dates, was provided to the student?
  
4. Species of animals used: \_\_\_\_\_ Number of animals used: \_\_\_\_\_
  
5. USDA Pain Category designated for this study: \_\_\_\_\_
  
6. Describe, in detail, the role of the student in this project: procedures and equipment they were involved with, oversight provided and safety precautions employed. (Attach extra pages if necessary.)

**7. Attach a copy of the Regulated Research Institution IACUC Approval.** A letter from the Qualified Scientist or Principal Investigator is not sufficient.

**Certification or Documentation of Student Researcher Training**

List Certificate Number or Attach Documentation	Date(s) of Training	
Qualified Scientist/Principal Investigator Printed Name	Signature	Date
IACUC Chair/Coordinator Printed Name	Signature	Date

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

Required for research involving microorganisms, rDNA, fresh/frozen tissue, blood and body fluids.

SRC/IACUC/IBC approval required before experimentation.

Student's Name \_\_\_\_\_

Title of Project \_\_\_\_\_

## To be completed by Student Researcher in collaboration with Qualified Scientist/Designated Supervisor:

(All questions are applicable and must be answered; additional page(s) may be attached.)

- 1) Identify potentially hazardous biological agents to be used in this experiment. Include the source, quantity and the biosafety level risk group of each microorganism.
- 2) Describe the site of experimentation including the level of biological containment.
- 3) Describe the method of disposal of all cultured materials and other potentially hazardous biological agents.
- 4) Describe the procedures that will be used to minimize risk. (personal protective equip., hood type, etc.)
- 5) What final biosafety level do you recommend for this project given the risk assessment you conducted?

## To be completed by Qualified Scientist or Designated Supervisor

- 1) What training will the student receive for this project?
- 2) Do you concur with the biosafety information and recommendation provided by the student researcher above?  Yes  No  
If no, please explain.

\_\_\_\_\_  
QS/DS Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Signature

Experience/training of Designated Supervisor as it relates to the student's area of research (if applicable)

### To be completed by SRC prior to experimentation:

- The SRC has carefully studied this project's Research Plan and the risk level assessment above and approves this study as a BSL-1 study, which must be conducted at a BSL-1 or above laboratory.
- The SRC has carefully studied this project's Research Plan and the risk level assessment above and approves this study as a BSL-2 study, which must be conducted at a BSL-2 or above laboratory.

\_\_\_\_\_  
SRC Chair's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval

### To be completed by SRC after experimentation with Institutional pre-approval:

- This project was reviewed and approved by the appropriate institutional board (e.g. IACUC, IBC) before experimentation at a BSL-1 or BSL-2 laboratory and complies with the ISEF rules. The required institutional forms are attached.
- The institution does not require approval for this type of study. The student has received proper training. Attached is a letter from an institutional representative certifying the above.

\_\_\_\_\_  
SRC Chair's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Approval

## Human and Vertebrate Animal Tissue Form (6B)

Required for projects using fresh/frozen tissue, primary cell cultures, blood, blood products and body fluids.

If the research involves living organisms, please ensure that the proper human or animal forms are completed.

*All projects using any tissue listed above, must also complete Form 6A.*

Student's Name \_\_\_\_\_

Title of Project \_\_\_\_\_

### To be completed by Student Researcher:

1) What tissue(s), organ(s), or part(s) will be used?

2) Where will the above tissue, organ, or part be obtained (identify each separately):

3) If the tissue is obtained from a source within a research institution, please provide information regarding the vertebrate study from which the tissue was obtained. Attach a copy of the IACUC certification with the name of the research institution, the title of the study, the IACUC approval number and date of IACUC approval.

### To be completed by the Qualified Scientist or Designated Supervisor:

I verify that the student will work solely with organs, tissues, cultures or cells that will be supplied to him/her by myself or qualified personnel from the laboratory; and that if vertebrate animals were euthanized they were euthanized for a purpose other than the student's research.

**AND/OR**

I certify that the blood, blood products, tissues or body fluids in this project will be handled in accordance with the standards and guidance set forth in Occupational Safety and Health Act, 29CFR, Subpart Z, 1910.1030 - Blood Borne Pathogens.

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date Signed

(Must be prior to experimentation.)

\_\_\_\_\_  
Title

\_\_\_\_\_  
Phone/Email

\_\_\_\_\_  
Institution

## Continuation Projects Form (7)

**Required for projects that are a continuation in the same field of study as a previous project.  
This form must be accompanied by the previous year's abstract, Form (1A) and Research Plan.**

Student's Name \_\_\_\_\_

**To be completed by Student Researcher:**

List all components of the current project that make it new and different from previous research. Use an additional form for 2005 and earlier projects.

Components	Current Research Project	Previous Research Project
<b>1. Title</b>		2007-2008:  2006-2007:
<b>2. Line of investigation/ central theme of research</b>		2007-2008:  2006-2007:
<b>3. Objectives</b>		2007-2008:  2006-2007:
<b>4. Variables studied</b>		2007-2008:  2006-2007:
<b>5. Additional changes</b>		2007-2008:  2006-2007:

*This form must be displayed at your project to help provide the judges a better understanding of your project and what research has been done in the current year.*

I hereby certify that the above information is correct and that the current year Abstract & Certification and project display board properly reflect work done only in the current year.

\_\_\_\_\_  
Student's Printed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date of Signature