

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 Instructions

A complete research plan is required and 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 or Problem being addressed

B. Hypothesis/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

Items 1-4 below are guidelines to be followed when applicable:

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

- **Subjects.** Describe who will participate in your study (age range, gender, racial/ethnic composition). Identify any vulnerable populations (minors, pregnant women, prisoners, mentally disabled or economically disadvantaged).
- **Recruitment.** Where will you find your subjects? How will they be invited to participate?
- **Methods.** What will participants be asked to do? Will you use any surveys, questionnaires or tests? What is the frequency and length of time involved for each subject?
- **Risks.** What are the risks or potential discomforts (physical, psychological, time involved, social, legal etc) to participants? How will you minimize the risks?
- **Benefits.** List any benefits to society or each participant.
- **Protection of Privacy.** Will any identifiable information (e.g., names, telephone numbers, birthdates, email addresses) be collected? Will data be confidential or anonymous? If anonymous, describe how the data will be collected anonymously. If not anonymous, what procedures are in place for safeguarding confidentiality? Where will the data be stored? Who will have access to the data? What will you do with the data at the end of the study?
- **Informed Consent Process.** Describe how you will inform participants about the purpose of the study, what they will be asked to do, that their participation is voluntary and they have the right to stop at any time.

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; Responses must be on the form

Student's Name _____

Title of Project _____

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

(Responses must remain on the form as it is required to be displayed at student's project booth.)

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) Have you reviewed the ISEF rules relevant to this project? 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 for the project.
Please list and describe. (Do not list procedures student **only** observed.)

5) How independent or creative was the student's work?

*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-controlled 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 _____

Adult Sponsor: _____ Contact Phone/Email: _____

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

1. I have submitted my Research Plan which addresses ALL areas indicated in the Human Subjects Section of the Research Plan Instructions.
2. I have attached any surveys or questionnaires I will be using in my project.
3. Yes No I am requesting a waiver of the documentation of informed consent and/or minor assent.
4. Yes No Not Applicable I am requesting a waiver for obtaining parental permission.

If you answered NO to questions 3 or 4 (no waiver requested), attach the consent form you will use.

5. Yes No Are you working with a Qualified Scientist?
 Name: _____ Degree: _____
 Email Address/Phone Number: _____
 Experience/Training as it relates to this project: _____

To be completed by Institutional Review Board (IRB) after review of the research plan. The submitted Research Plan must address all areas indicated on the Human Subjects section of the Research Plan Instructions.

Check one of the following:

- Research project requires revisions and is **NOT approved** at this time. IRB will attach document indicating concerns and/or requested revisions.
- Research project is **Approved** with the following conditions below: (All 5 must be answered)
 1. Risk Level (check one) : Minimal Risk More than Minimal Risk
 2. Qualified Scientist (QS) Required: Yes No
 3. Written Minor Assent required for minor subjects:
 Yes No Not applicable (No minors in this study)
 4. Written Parental Permission required for minor subjects:
 Yes No Not applicable (No minors in this study)
 5. Written Informed Consent required for subjects 18 years or older:
 Yes No Not applicable (No subjects 18 yrs or older in this study)

IRB SIGNATURES (All 3 signatures required) None of these individuals may be the adult sponsor, designated 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 and agree with the above IRB determinations.

| Medical or Mental Health Professional (a psychologist, psychiatrist, medical doctor, licensed social worker, licensed clinical professional counselor, physician's assistant, or registered nurse) | |
|--|------------------|
| Printed Name | Degree |
| Signature | Date of Approval |

| School Administrator | |
|----------------------|------------------|
| Printed Name | Degree |
| Signature | Date of Approval |

| Educator | |
|--------------|------------------|
| Printed Name | Degree |
| Signature | Date of Approval |

Sample of Informed Consent Form

Instructions to the Student Researcher: An informed consent form should be developed in consultation with the Adult Sponsor, Designated Supervisor or Qualified Scientist.

This form is used to provide information to the research subject (or parent/guardian) and to document written informed consent, minor assent and/or parental permission.

- When written documentation is required, the researcher keeps the original, signed form.
- Students may use this form or may copy **ALL** elements of this form into a new document.

I am asking for your voluntary participation in my science fair project. Please read the following information about the project. If you would like to participate, please sign in the appropriate box below.

Purpose of the project:

If you participate, you will be asked to:

Time required for participation:

Risks:

Benefits:

How confidentiality will be maintained:

If you have any questions about this study, feel free to contact:

Adult Sponsor: _____ Phone/email: _____

Voluntary Participation:

Participation in this study is completely voluntary. If you decide not to participate there will not be any negative consequences. Please be aware that if you decide to participate, you may stop participating at any time and you may decide not to answer any specific question.

By signing this form I am attesting that I have read and understand the information above and I freely give my consent/ assent to participate or permission for my child to participate.

Adult Informed Consent or Minor Assent

Date Reviewed & Signed: _____

Printed Name of Research Subject:

Signature:

Parental/Guardian Permission (if applicable)

Date Reviewed & Signed: _____

Parent/Guardian Printed Name:

Signature:

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 have approved the use and dosages of prescription drugs and/or nutritional supplements.
- 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 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. The information must be on the form; use an additional form for 2006 and earlier projects.

| Components | Current Research Project | Previous Research Project |
|--|--------------------------|------------------------------|
| 1. Title | | 2008-2009: 2007-2008: |
| 2. Line of investigation/ central theme of research | | 2008-2009: 2007-2008: |
| 3. Objectives | | 2008-2009: 2007-2008: |
| 4. Variables studied | | 2008-2009: 2007-2008: |
| 5. Additional changes | | 2008-2009: 2007-2008: |

Attached are:

2009 Abstract and Research Plan

2008 Abstract

2007 Abstract

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