

Name: _____ Grade: _____ Teacher: _____

Research Plan: Use this form for rough draft then type into computer, print and save. Turn in printed copy with completed and signed forms. **50** points. Due Dec. 3rd

Title: _____

Statement of the Problem (*In the form of a question!*)

Purpose (*The purpose of my project is to show...*)

Hypothesis (*I believe...*)

Materials (List)

- | | |
|----|-----|
| 1. | 6. |
| 2. | 7. |
| 3. | 8. |
| 4. | 9. |
| 5. | 10. |

Procedure (*List steps you will use to perform experiment. Be precise.*)

1st _____

2nd _____

3rd _____

4th _____

5th _____

6th _____

7th _____

8th _____

9th _____

10th _____

Variables

Constants *What are the variable in your experiment that you will keep the same?*

Experimental Factor (Independent Variable): *What is the variable that you will be experimenting with?* _____

Dependent Variable: *What will you measure? What units of measurement will you use? How will you collect this data?* _____

Data

Data Table. On a separate sheet of paper draw an example of the data table you plan to use.

If your data is ‘subjective’ you must create a rating system rubric in order to measure. This must be attached to your research plan.

Graph. On a separate sheet of paper draw an example of the graph you plan to use.

Use: <http://nces.ed.gov/nceskids/createagraph/default.aspx>

Make sure to completely label both the table and graph. You can use “fake” data for now.

If using a questionnaire survey, you must attach.

References *Research topics, words, concepts, or current events that are related to your problem (project).* Website: <http://www.easybib.com/MyBib/view.php>

Source 1:

Title: _____

Author or editor: _____

Publisher or website (not Google!): _____

Volume (encyclopedia or series): _____

Pages used (encyclopedia or series): _____

Copyright: _____ Date of use for electronic material: _____

Source 2:

Title: _____

Author or editor: _____

Publisher or website (not Google!): _____

Volume (encyclopedia or series): _____

Pages used (encyclopedia or series): _____

Copyright: _____ Date of use for electronic material: _____

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 Intel ISEF Rules and Guidelines.
2. I have reviewed the student's completed Student Checklist (1A) and Research Plan.
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 Potentially Hazardous Biological Agents
 - Vertebrate Animals Microorganisms rDNA Tissues
5. Items to be completed for **ALL PROJECTS**
 - Adult Sponsor Checklist (1) Research Plan
 - Student Checklist (1A) Approval Form (1B)
 - Regulated Research Institutional/Industrial Setting Form (1C) (when applicable after completed experiment)
 - Continuation/Research Progression Form (7) (when applicable)

- 6) **Additional forms required if the project includes the use of one or more of the following** (check all that apply):
- Humans** (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 Institutional Biosafety Committee (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)
 - Risk Assessment Form (3) required for projects involving protists, archae and similar microorganisms, for projects using manure for composting, fuel production or other non-culturing experiments, for projects using color change coliform water test kits, microbial fuel cells, and for projects involving decomposing vertebrate organisms
 - Hazardous Chemicals, Activities and Devices** (No 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)

* _____
 Adult Sponsor's Printed Name Signature Date of Review

* _____
 Phone Email

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: Coatesville Area Senior High School Phone: 610-383-3735
School Address: 1445 Lincoln Hwy E
Coatesville, PA 19320

✓ 4. Adult Sponsor: _____ Phone/Email: _____

5. Is this a continuation/progression from a previous year? Yes No
If Yes:
a) Attach the previous year's Abstract and Research Plan
b) Explain how this project is new and different from previous years on Continuation/Research Progression Form (7)

6. This year's laboratory experiment/data collection: (must be stated (mm/dd/yy))
12/10/2014 1/10/2015
Start Date: (mm/dd/yy) End Date: (mm/dd/yy)

✓ 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/Project Summary following the Research Plan instructions and attach to this form.

10. An abstract is required for all projects after experimentation.

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 Intel 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 and the Intel 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**. 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** 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 (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 Intel ISEF Rules. **Attach (1C) and required institutional approvals (e.g. IACUC, IRB).**

SRC Chair's Printed Name

Signature

Date of Approval (mm/dd/yy)

3. Final Intel 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** and complies with all Intel ISEF Rules.

* _____
Regional SRC Chair's Printed Name

Signature

Date of Approval

State/National SRC Chair's Printed Name
(where applicable)

Signature

Date of Approval

Risk Assessment Form (3)

Required for projects using hazardous chemicals, activities or devices and microorganisms exempt from pre-approval. Must be completed before experimentation.

✓ Student's Name(s) _____

✓ Title of Project _____

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

- ✓ 1. List/identify microorganisms exempt from pre-approval (see Potentially Hazardous Biological Agent rules), and all hazardous chemicals, activities, or devices that will be used.

Materials, activities, or devices that I am using in my experiment that may be hazardous or pose some risk include....

- ✓ 2. Identify and assess the risks involved in this project.

Risks that are present in my experiment are...

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

Precautions I will take in order to safely manage my experiment are...

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 (mm/dd/yy)

Position & Institution

Phone or email contact information

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