Student Checklist (1A)

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

1) a. Student/Team Leader: _____ Grade: _____

Email: _____ Phone: _____

Demographic Information (optional): ☐ White (non-Hispanic) ☐ Hispanic Latino ☐ Asian ☐ Black/African American ☐ Hawaiian/Pacific Islander ☐ Native American/Alaska Native

b. Team Member # 2 _____ Grade: _____

Email: _____ Phone: _____

Demographic Information (optional): ☐ White (non-Hispanic) ☐ Hispanic Latino ☐ Asian ☐ Black/African American ☐ Hawaiian/Pacific Islander ☐ Native American/Alaska Native

c. Team Member # 3 _____ Grade: _____

Email: _____ Phone: _____

Demographic Information (optional): ☐ White (non-Hispanic) ☐ Hispanic Latino ☐ Asian ☐ Black/African American ☐ Hawaiian/Pacific Islander ☐ Native American/Alaska Native

2) Title of Project:

3) School: _____ School Phone: _____ Address: _____

4) Adult Sponsor/Teacher: _____ Phone/E-mail: _____

5) Does this project need SRC/IRB/IACUC pre-approval? ☐ Yes ☐ No

6) Is this a continuation 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 Form (7)

7) This year's laboratory experiment/data/data collection will begin: _____ (must be stated (mm/dd/yy))

Actual Start Date: _____ (mm/dd/yy) Actual End Date: _____ (mm/dd/yy) OR ☐ upon SRC preapproval date.

8) Where will you conduct your experimentation? (check all that apply)

☐ Research Institution ☐ School ☐ Field ☐ Home ☐ Other: _____

9) List name and address of all non-school work site(s):

Name: _____ _____

Address: _____ _____

Phone: _____ _____

10) Complete a Research Plan following the Instructions on Page 3 and attach to your application.
Follow the Minimum Quality Requirements outlined on page 4 for your type of project. More details are available on the ISEF web site: http://www.societyforscience.org/isef-forms.

11) An abstract will be required for all projects **after experimentation.**

For information only; do NOT include this page in your application.

Research Plan/Project Summary Instructions

A complete Research Plan/Project Summary is required for ALL projects and must accompany Student Checklist (1A).

1. All projects must have a Research Plan/Project Summary
   a. Written prior to experimentation following the instructions below to detail the rationale, research question(s), methodology, and risk assessment of the proposed research. Projects requiring pre-approval must be reviewed by the appropriate committee (SRC, IRB, IACUC).
   b. If changes are made during the research, such changes can be added to the original research plan as an addendum, recognizing that some changes may require returning to the IRB or SRC for appropriate review and approvals. If no additional approvals are required, this addendum serves as a project summary to explain research that was conducted.
   c. If no changes are made from the original research plan, no project summary is required.
2. Some studies, such as an engineering design or mathematics projects, will be less detailed in the initial project plan and will change through the course of research. If such changes occur, a project summary that explains what was done is required and can be appended to the original research plan.
3. The Research Plan/Project Summary should include the following:
   a. **RATIONALE:** Include a brief synopsis of the background that supports your research problem and explain why this research is important and if applicable, explain any societal impact of your research.
   b. **RESEARCH QUESTION(S), HYPOTHESIS(ES), ENGINEERING GOAL(S), EXPECTED OUTCOMES:** How is this based on the rationale described above?
   c. Describe the following in detail:
      - **Procedures:** Detail all procedures and experimental design including methods for data collection. Describe only your project. Do not include work done by mentor or others.
      - **Risk and Safety:** Identify any potential risks and safety precautions needed.
      - **Data Analysis:** Describe the procedures you will use to analyze the data/results.
      - **Discussion of Results and Conclusions**: Discuss the data/results and conclusions that can be drawn.
   d. **BIBLIOGRAPHY:** List at least 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.

Items 1–4 below are subject-specific guidelines for additional items to be included in your research plan/project summary as applicable.

1. **Human participants research:**
   a. **Participants:** Describe age range, gender, racial/ethnic composition of participants. Identify vulnerable populations (minors, pregnant women, prisoners, mentally disabled or economically disadvantaged).
   b. **Recruitment:** Where will you findyourparticipants?Howwilltheybeinvitedtoparticipate?
   c. **Methods:** What will participants be asked to do? Will you use any surveys, questionnaires or tests? If yes and not your own, how did you obtain? Did it require permissions? If so, explain. What is the frequency and length of time involved for each subject?
   d. **Risk Assessment:** What are the risks or potential discomforts (physical, psychological, time involved, social, legal, etc.) to participants? How will you minimize risks? List any benefitstosocietyorparticipants.
   e. **Protection of Privacy:** Will identifiableinformation(e.g.,names,telephonenumbers,birthdates,emailaddresses)becollected? Will data be confidential/anonymous?Ifanonymous,describehowthedatawillbecollected.Ifnotanonymous,whatprocedures are in place for safeguarding confid entiality? Where will data be stored? Who will have access to the data? What will you do with the data after the study?
   f. **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:**
   a. Discuss potential ALTERNATIVES to vertebrate animal use and present justificationforuseofvertebrates.
   b. Explain potential impact or contribution of this research.
   c. Detail all procedures to be used, including methods used to minimize potential discomfort, distress, pain and ~~injury~~ to the animals and detailed chemical concentrations and drug dosages.
   d. Detail animal numbers, species, strain, sex, age, source, etc., include justifi cation of the numbers planned.
   e. Describe housing and oversight of daily care
   f. Discuss disposition of the animals at the termination of the study.
3. **Potentially hazardous biological agents research:**
   a. Give source of the organism and describe BSL (Biosafety Level) assessment process and BSL determination.
   b. Detail safety precautions and discuss methods of disposal.
4. **Hazardous chemicals, activities & devices:**
   - Describe Risk Assessment process, supervision, safety precautions and methods of disposal.
   - Detail chemical concentrations and drug dosages.
   - Material Safety Data Sheets are not necessary to submit with paperwork.

For information only. Do **NOT** include this page in your application.

Minimum Quality Requirements

Find the type of project you are doing from the list below and review the minimum requirements for project acceptance. Make sure that the information described in the requirements list is included in the Research Plan. Detailed research plans are at https://science-fair.org/rules-and-registration/forms/

Types of Science Fair Projects

Science Project:	investigates the effects of changes or answers the question "Why?"
Engineering Project:	solves a need or problem; includes measures of success.
Product Testing Project:	tests and compares similar items using measurable endpoints.
Human Participants Project:	uses humans to test an engineering prototype or app.
Demonstration Project:	shows how something works (not accepted at this fair)

Science Project Minimum Requirements

1. Subject: defines a testable question that begins Why?... or What is effect of a change in X on Y? (for example, what is the effect of a change in the amount of sunlight on the growth of tomato plants)
2. Bibliography: include references from your literature research.
3. Hypothesis based on your library research and knowledge. It is your best estimate of what will happen.
4. Experimental design:
   - Define a control (a "standard" group) to which all test groups will be compared.
   - Define test groups where only one variable differs from the "control" group.
   - Define the measurable endpoint(s).
   - Each test group should contain a minimum of 3 objects being tested (seed, plant, rat, etc.).
   - Plan to change only one variable in each test cycle. However, change the variable in several ways (several concentrations of a chemical, several temperatures, or several time points etc.).
   - Report measurements in metric units when possible.
   - Repeat the test more than once to see if your results are reproducible.

Engineering Project Minimum Requirements

1. Clearly define the problem or need the engineering project will solve.
2. Include bibliography from your literature research.
3. List design criteria and design constraints
   - Design criteria = physical and functional characteristics of the design (shape, weight, etc.)
   - Design constraints/limitations (cost, time, available materials, etc.)
4. Clearly state success criteria. What will you measure to see if your design worked?
5. Report measurements in metric units where possible.

Product Testing Project Minimum Requirements (Grades 6 – 8 only)

1. Clearly identify what kind of item (soap, fabric, etc.) you plan to test.
2. Define a test group of at least three similar items (Grades 6 and 7) or four similar items (Grade 8).
3. Include test criteria that:
   - Define what will be measured.
   - Describe how you will take measurements.
   - Report measurements in metric units, when possible.
   - Define criteria for "the best" (cleanest, largest, coldest, etc).
   - Repeat the test more than once to see if your results are reproducible.

Human Participants Project Minimum Requirements

Detailed ISEF Guidelines are available: https://student.societyforscience.org/international-rules-pre-college-science-research.

1. Use the Human Subjects Detailed Research Plan.
2. Include a complete sample test or sample Informed Consent Form for SRC review.
3. Subjects may NOT be asked to ingest foods without proper medical supervision and/or as a reward for participation.
4. Have at least 10 human participants and having a quantifiable, measurable endpoint.
5. Projects usually need to specifically address issues of randomization of trials (not mixing up treatments or ignoring learning from participating previously).

Demonstration Projects show or explain "how something works"

Demonstration projects are not accepted at the Championship. What interests you about your project? Can you channel your interest into a Science, Engineering or Product Testing Project? Ask your teacher for help. A demonstration often can be turned into an experimental project by asking how something (another factor) affects the functioning of the item. Also, if you like to build things, a demonstration might become an engineering project.

Checklist for Adult Sponsor (1) (Page 5 2020)

This completed form is required for ALL projects.
Full text of the rules available at www.societyforscience.org/isef

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:
   - ☐ Human
   - ☐ Vertebrate Animals
   - Potentially Hazardous Biological Agents: ☐ Microorganisms ☐ rDNA ☐ Tissues
5) Forms to be completed for **ALL PROJECTS**
   - ☐ Adult Sponsor Checklist (1)
   - ☐ Student Checklist (1A)
   - ☐ Research Plan
   - ☐ Approval Form (1B)
   - ☐ Regulated Research Institutional/Industrial Setting Form (1C) (when applicable. Submit <u>after</u> completed experiment)
   - ☐ Continuation 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, including student-designed inventions/prototypes.** (Requires prior approval by an Institutional Review Board IRB).
- ☐ 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).
- ☐ 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 vertebrates.

☐ **Hazardous Chemicals, Activities and Devices** (Prior approval is strongly recommended).
- ☐ 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 prior to experimentation

Approval Form (1B)

Each participant is required to complete this form. (Page 6 2020)

1) REQUIRED FOR ALL PARTICIPANTS.

a) Student Acknowledgement:

- 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 research.
- I have read and will abide by the following Ethics Statement:

Student researchers are expected to maintain the highest standards of honesty & 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 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.)

Official Use Only

2) TO BE COMPLETED BY THE SRC (Safety Review Committee)

(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/IRB Chair's Printed Name

Signature | Date of Approval

NOTE: If a stamp is used, it must be initialed by the chairperson.

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 *(where applicable)*	Signature	Date of Approval

Student Permission and Hold Harmless Agreement

Santa Clara Valley Science and Engineering Fair Association

I_____, as the parent/guardian of _ ,
approve my child's participation in the Santa Clara Valley Science & Engineering Fair (Synopsys Championship), and assume responsibility for the oversight of the scientific research conducted by my child in association with the teachers/mentors as listed in my child's application packet.

I understand the Synopsys Championship is affiliated with the International Science & Engineering Fair (ISEF), and that the ISEF rules, which are publicly available from the ISEF web page, http://www.societyforscience.org/isef/rulesandguidelines, apply fully to the Synopsys Championship competition. My child and I are fully responsible for reading, understanding and adhering to the ISEF rules. Failure to comply will result in rejection of my child's science project application and/or disqualification of the child's project entry at the actual event even if the application was approved.

I understand that Synopsys Championship high school division grand prize winners are invited to compete at the ISEF, and that middle school grand prize winners can compete at the California Science & Engineering Fair (CSEF).

I give permission to Synopsys Championship and any news media in attendance at the Synopsys Championship, ISEF and CSEF to photograph, videotape, and interview my child during the fair(s) and agree that recordings may be used, reproduced, and distributed without restriction by the Synopsys Championship, participating Santa Clara County school districts, and news media in news stories, publications and promotional activities.

I agree to hold harmless the Synopsys Silicon Valley Science & Technology Outreach Foundation, Santa Clara Valley Science & Engineering Fair Association and their employees, agents and contractors against any liability and any claims resulting from my child's participation in the Synopsys Championship, and the subsequent CSEF and ISEF events.

Date _____Parent/Guardian **Signature**: _____

Note: Submission of this permission and hold harmless form, along with the required application packet and processing fee, does not connote acceptance of your child's project for the Synopsys Championship. Your child will be officially notified regarding his/her project acceptance (after review and approval of the application) by a posting of the word 'Approved' on the website, www.science-fair.org, (where the project will be listed by teacher). Please use the 'Project Status' link on the website homepage. The application processing fee is NOT refundable.

Photo Video/Website/Media Release Form

Santa Clara Valley Science and Engineering Fair Association

Dear Parent/Guardian:

On occasion, representatives from the media or the Santa Clara Valley Science & Engineering Fair Association wish to photograph, videotape, and/or interview students in connection with their participation in the Science and Engineering Fair. Educating the public is one of our organization's objectives. The entire community benefits from knowing about the needs and abilities of our students and about the program we offer to students and families in Santa Clara county.

In order to release student photos, video footage, comments and/or post on the Science Fair website or in brochures and fundraising materials, we need written permission. To give your consent, please complete the form below and submit it with the science fair application packet.

I, _____, parent/guardian of _____,

I Give my permission ☐ or ☐ I DO NOT give permission

for my child to be photographed, videotaped, and/or interviewed by representatives from the media or the Santa Clara Valley Science & Engineering Fair for the purpose of publicizing the Science & Engineering Fair. I authorize the use and reproduction by the Santa Clara Valley Science & Engineering Fair Association for anyone authorized by the SCVSEFA of any and all photographs and/or videotapes taken of my child, without compensation to me/my child or other family members. All of these photographs/video recordings shall be the property, solely and completely, of the Santa Clara Valley Science & Engineering Fair Association. I waive any right to inspect or approve the finished photographs/videotapes, and the sound track, script or printed matter that may be used in conjunction with them.

Signature of parent/guardian_____Date _____,

Address _____

Or

I am 18 years of age or older and I give my consent without reservations to the foregoing on my own behalf.

Signature of 18 year-old student_____Date _____,

Address _____