



2019-2020

Science Fair Handbook



“Science is simply the
word WE USE TO
DESCRIBE a method of
organizing our
CURIOSITY.”

~Tim Minchin~

San Benito CISD Science Fair Guidelines for 2019-2020

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San Benito CISD Rules and Guidelines for this year's science fair are aligned with the International Science and Engineering Fair which can be accessed at societyforscience.org/ISEF2020. This will allow our students to compete beyond the district level such as regional, state, nationals, and international competitions. Familiarity with the rules is critical for students, parents, teachers, mentors, fair directors, and judges.

These rules are applicable for:

**The International Science and Engineering Fair 2020
Anaheim, CA, USA, May 10-15, 2020**

The purpose of these rules are to:

- Protect the rights and welfare of the student researcher
- Protect the rights and welfare of human participants
- Protect the health and welfare of vertebrate animal subjects
- Protect and promote good stewardship of the environment
- Ensure adherence to federal regulations
- Ensure use of safe laboratory practices
- Determine eligibility for competition in ISEF

This handbook is designed to develop and help facilitate a successful Science Fair by fostering a deeper understanding of how more students can participate and win at a higher level of competition. Science Fairs allow students to apply their science skills outside of the classroom and investigate the “why” and “how” of the world.

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San Benito CISD

2019-2020 Science Fair

Calendar of Event

Date	Event
9/30/2019	Proposal Due – Decide on topic, develop question/solution • Student Checklist (1A) • Research Plan/Project Summary • Approval Form (1B) • Any additional required forms
10/11/2019	Final Prediction/Hypothesis Background Research
11/01/2019	Rough Draft Planning Materials/Procedures Due Procedure Check – bring in science notebook components, including data.
11/08/2019	Preliminary Results Rough Draft of Data/Observations/Graphs and Charts/Conclusion Prepare Project Display
11/15/2019	Final Copy of Procedure, Data, Conclusion, Due Prepare Oral Presentation
11/22/2019	All Projects Due – All Parts Question/Problem, Prediction, Observation, Results, Conclusion, Next Steps/New Questions.
12/02/2019	Classroom Science Fair Window
1/08/2020	Campus Science Fair Window
1/20/2020	Elementary Science Fair Projects Due at VMA (by 3:30)
1/21/2020	Secondary Science Fair Projects Due at VMA (by 3:30)
1/22/2020	District Science Fair Judging
1/23/2020	District Science Fair Ceremony

Ethics Statement

Student researchers, as well as adults who have a role in their projects, are expected to maintain the highest ethical standards. These include, but are not limited to:

- **Integrity.** Honesty, objectivity, and avoidance of conflicts of interest are expected during every phase of the research. The project should reflect independent research done by the student(s), and represent only one year's work.
- **Legality.** Compliance with all federal, country, state and local laws is essential. All projects must be approved by a Science Fair Coordinator, and when necessary must also be approved by District Coordinator.
- **Respect for Confidentiality and Intellectual Property.** Confidential communications, as well as patents, copyrights, and other forms of intellectual property must be honored. Unpublished data, methods, or results may not be used without permission, and credit must be given to all contributions to research.
- **Stewardship of the Environment.** It is the responsibility of the researcher(s) and the adults involved to protect the environment and its organisms from harm. All projects involve some amount of risk. Everyone is expected to recognize the hazards, assess the risks, minimize them, and prepare for emergencies.
- **Animal Care.** Proper care and respect must be given to vertebrate animals. The guiding principles for the use of animals in research includes the following "Four R's": Replace, Reduce, Refine, Respect.
- **Human Participant Protection.** The highest priority is the health and well-being of the student researcher(s) and human participants.

Scientific fraud and misconduct are not condoned at any level of research or competition. This includes 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. San Benito CISD reserves the right to revoke recognition of a project subsequently found to have been fraudulent.

ALL PROJECTS

Eligibility/Limitations

1. Each SBCISD campus may send the number of projects allocated.
 - a. Junior levels may send 5 projects per grade level (6th, 7th, & 8th)
 - b. Senior levels may send 8 projects per grade level (9th, 10th, 11th, & 12th)
2. English is the official language of ISEF; therefore, student project boards and abstracts must be in English.
3. Each student is only allowed to enter one project. That project may include no more than 12 months of continues research and may not include research preformed before January 2019.
4. Team projects must have no more than two members. The team must be composed of the original members that competed at the respected campus science fair.
5. Projects that are demonstrations, “library” research, or informational projects, “explanation” models are not appropriate for the SBCISD Science Fair.
6. A research project may be part of a larger study performed by professional scientists; however, the project presented by the student must be only their own portion of the complete study.

General Requirements

1. All students competing in the SBCISD Science Fair must adhere to all rules set forth in this document.
2. All projects must adhere to the ethics statement.
3. It is the responsibility of the student and the Adult Sponsors to evaluate the study to determine if the research will require forms and/or review and approval prior to experimentation.
4. Projects must adhere to local, state, and U.S. Federal laws, regulations and permitting conditions. In addition, projects conducted outside the U.S. must adhere to the laws of the country and jurisdiction in which the project was performed.
5. The use of non-animal research methods and alternatives to animal research are strongly encouraged and must be explored before conducting a vertebrate animal project.

6. Introduction or disposal of non-native, genetically-altered, and/or invasive species, pathogens, toxic chemicals or foreign substances into the environment is prohibited.
7. Projects competing at the SBCISD Science Fair must have an exhibit that adheres to ISEF Display & Safety requirements and must be visible during all operable hours of the exhibit hall without reliance on electricity or internet connections.

Approval and Documentation

1. Before experimentation begins, the campus coordinator(s) must review and approve projects.
2. Every student must complete the ***Student Checklist (1A)***, A ***Research Plan/Project Summary***, and ***Approval form (1B)***. Every student must review project with their Adult Sponsor in coordination with completion by the Adult Sponsor of the ***Checklist for Adult Sponsor (1)***.
3. A qualified scientist is required for all studies involving Biosafety Lab-2 potentially hazardous biological agents and DEA-controlled substances and is also required for human participation studies and vertebrate animal studies.
4. After initial approval, any proposed changes in the ***Student Checklist (1A)*** and ***Research Plan Summary*** must be pre-approved before laboratory experimentation/data collection resumes.
5. Any continuing project must document that the additional research is new and different. (***Continuation/Research Progression Projects Form (7)***.)
6. If work was conducted in a regulated research institution, industrial setting, or any work site other than home, school, or field at any time during the current project year, the ***Regulated Research Institutional/Industrial Settings Form (1C)*** must be completed and displayed at the project booth.
7. After experimentation, each student or team must submit a 250-word. One-page abstract which summarizes the current year's work. The abstract must describe research conducted by the student, not the supervising adult(s).
8. A project data book and research paper must be presented with project.
9. All signed forms, certificates, and permits must be available for review

Team Projects

1. Team projects compete and are judged in the category of their research. All team members must meet the eligibility requirements for ISEF.
2. Teams must have no more than 2 members.
 - a. Team membership cannot be changed during a given research year unless there are extenuating circumstances, including a team project being changed to an individual project or vice versa. Such conversions must address rational for the change and clear delineation between research preceding the change and that which will follow. A memorandum documenting this review and approval should be attached to Form 1A.
 - b. Once the project has competed in a science fair at any level, team membership cannot change and the project cannot be converted from individual project to team project or vice versa.
3. Each team is encouraged to appoint a team leader to coordinate the work and act as a spokesperson. However, each member of the team should be able to serve as spokesperson, be fully involved with the project, and familiar with all aspects of the project. The final work should reflect the coordinated efforts of all team members and will be evaluated using the same judging criteria as individual projects.
4. Each team member should submit an **Approval Form (1B)**. Team members must jointly submit the **Checklist for Adult Sponsor (1)**, one abstract, a **Student Checklist (1A)**, a **Research Plan/Project Summary**, and other required forms.
5. Full names of all team members must appear on the abstract and forms.

Roles and Responsibilities of Students and Adults

The Student Researcher(s)

The student researcher is responsible for all aspects of the research project:

- Enlisting the aid of any required supervisory adults and obtaining any necessary approvals.
- Following the International Rules & Guidelines and completing all appropriate documentation
- Performing the project (which may include, but not limited to) experimentation, data collection, engineering, data analysis, and any other process or procedures related to the project
- Understanding and abiding by the ethics statement and attesting to this understanding on **Approval Form 1B**.

Campus Science Fair Coordinator

Qualifications:

- A Campus Science Fair Coordinator may be a teacher.
- Should be knowledgeable in the area of student research, be familiar with the regulations around procedures and materials that apply to the student project, particularly when involving human participants, vertebrate animals, potentially hazardous biological agents or hazardous chemicals, devices or activities.
- Should have close contact with the student throughout the timeline of the project.

Responsibilities:

The Campus Science Fair Coordinator is responsible for:

- Working with the student to evaluate any possible risks involved in order to ensure the health and safety of the student conducting the research and the humans and/or animals involved in the study.
- Reviewing the student's Student Checklist (1A) and Research Plan/Project Summary to ensure that:
 - experimentation follows local, state, and Federal laws and ISEF rules
 - forms are completed by other required adults
 - any required Qualified Scientist meets the criteria as set forth in the Rules and Guidelines
 - the student's research is eligible for entry in ISEF
- Plan and implement a campus science fair
- Turn in projects to the District Science Fair on the appropriate due date no later than 3:30.
 - Any projects attempted to turn in after 3:30 will be declined entry to the District Science Fair.
- Assist in securing transportation for student(s) to present projects for judging.
- Assist in the District Science Fair Ceremony on January 23, 2020 at 6:00 pm.

The Qualified Scientist (QS)

Qualifications:

- Earned a doctoral/professional degree in a scientific discipline related to student's area of research

AND/OR

- Individual with extensive experience and expertise in the student's area of research
- Must be thoroughly familiar with the following regulations that govern the student's area of research including all local, state, Federal and if applicable, non-U.S. national regulations and laws.
- Can also serve as the Adult Sponsor, if that person meets both sets of qualifications
- May live elsewhere and not be local to the student, in which case, a Designated Supervisor has been appointed and trained to serve as the onsite supervision as necessary for the specific student project.

Responsibilities:**The Qualified Scientist is responsible for:**

- Reviewing the ISEF rules relevant to the project and approving the student's research plan or engineering design prior to the start of experimentation
- Providing direct supervision throughout the timeline of the project or coordinating with a Designated Supervisor to serve in this capacity
- Ensuring the proper training of the Student Researcher and/or Designated Supervisor in the necessary procedures
- Completing the required documentation which may include the Regulated Research Institutional Setting Form (1C), the Qualified Scientist Form (2) and the Risk Assessment Form (3), when applicable.

The Designated Supervisor (DS)**Qualifications:**

- Does not need an advanced degree
- Must be familiar with the student's project and agree to any training necessary
- May also serve as the Adult Sponsor for the project
- If the project involves the use of Vertebrate Animals (where behavior/habitat is influenced by humans), must be knowledgeable about the humane care and handling of the animals

Responsibilities:

- Providing direct supervision of the student experimentation
- Completing the required documentation — the Designated Supervisor box on the Qualified Scientist Form (2) when applicable
- Reviewing and completing the Risk Assessment Form (3) when needed

Roadmap to the District Science Fair

- The Campus Science Fair Coordinator in coordination with the administration team will determine how to implement the campus science fairs.
- Each student researcher must present projects twice prior to the District Science Fair
 - Classroom Science Fair
 - Campus Science Fair

Human Participants Rules

Rules involving human participants

The following rules were developed to help student researchers adhere to the federal regulations governing professional scientists and to protect the welfare of both human participants and the student researcher. Health and well-being is of the highest priority when students conduct research with human participants.

According to the Code of Federal Regulation 45, CFR 46 – a human participant is a living individual about whom an investigator conducting research obtains:

1. Data or samples through intervention or interaction with individuals.

OR

2. Identifiable private information.

Rules

1. Student researchers must complete ALL elements of the Human Participants portion of the Research Plan/Project Summary Instructions and evaluate and minimize the physical, psychological and privacy risks to their human participants. See Risk Assessment information on page 11 and the online Risk Assessment Guide (<https://student.societyforscience.org/human-participants#riskassess>) for additional guidance.
2. Student research involving human participants must be reviewed and approved by a District Science Fair Coordinator before any interaction (e.g., recruitment, data collection) with human participants may begin. It is the responsibility of the Adult Sponsor to evaluate potential physical and/or psychological risks of the project and make a determination about whether the project is appropriate for student research and safe for the student researcher and participants.
 - a. Projects that are conducted at school, at home or in the community that are not affiliated with a Regulated Research Institution (RRI) must be reviewed and approved by a District Science Fair Coordinator the student may begin recruiting and/or interacting with human participants. The District Science Fair Coordinator must assess the risk and document its determination of risk on Form 4.
 - b. Projects that are conducted at a Regulated Research Institution (RRI) (e.g., university, hospital, medical center, government lab) must have IRB approval from the RRI. A copy of the IRB approval for the project must be obtained. A letter from an adult mentor and/or Qualified Scientist is not sufficient documentation of the RRI IRB review and approval process.

3. The student must comply with all determinations made by the School or District Science Fair Coordinator before beginning any interaction with human participants (e.g., recruitment, data collection).
 - a. If the District Science Fair Coordinator requires a Qualified Scientist (QS), Form 2 must be completed by the QS before any interaction with human participants. The School will review this completed form before approving the project.
 - b. If the District Science Fair Coordinator requires a Designated Supervisor (DS), Form 3 must be completed before any interaction with human participants. The School will review this completed form before approving the project.
 - c. See rule #4 below regarding required procedures for obtaining informed consent/assent and/or parental permission.
4. Participation in research may begin only after research participants have voluntarily given informed consent/assent (in some cases with parental permission). Adult research participants may give their own consent. Research participants under 18 years of age and/or individuals not able to give consent (e.g. developmentally disabled individuals) give their assent, with the parent/guardian providing permission.
 - The Campus Science Fair Coordinator will determine whether the consent/assent/parental permission may be: (a) verbal or implicit OR (b) must be written. See the Risk Assessment information on page 15 and the online Risk Assessment Guide (<https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/Resources/Risk-Assessment-Guide.pdf>) for further explanation of informed consent.
 - Informed consent requires that the researcher provides complete information to the participant (and where applicable, parents or guardians) about the risks and benefits associated with participation in the research study, which then allows the participants and parents or guardians to make an informed decision about whether or not to participate.
 - Participants must be informed that their participation is voluntary and that they are free to stop participating at any time (i.e., they may participate or decline to participate, with no adverse consequences of non-participation or aborted participation).
 - Informed consent may not involve coercion.
 - When written parental permission is required and the study includes a survey, the survey must be attached to the consent form.
 - The student researcher may request that the Campus Science Fair Coordinator to waive the requirement for written informed consent/parental permission in his/her research plan if the project meets specific requirements. See section on waivers for more information about situations in which written parental permission and/or written informed consent can be waived by the Campus Science Fair Coordinator.

5. The research study must be in compliance with all privacy laws (e.g., U.S. Family Educational Rights and Privacy Act (FERPA) and the U.S. Health Insurance Portability and Accountability Act (HIPAA)) when they apply to the project the privacy of the human participant (e.g. the project involves medical information).
6. Students are prohibited from independently diagnosing disease, administering medication, and/or performing medical procedures on human participants.
 - a. A student may observe and collect data for analysis of medical procedures, medication/treatment efficacy, and diagnosis of illness, only under the direct supervision of a licensed health care provider/professional.
 - b. This Healthcare provider/professional must be named in the research plan/protocol approved by the District Science Fair Coordinator. The District Science Fair Coordinator must also confirm that the student is not violating the appropriate practice act (medical, nursing, pharmacy, etc.) of the state or country in which he/she is conducting the research.
7. Student researchers may **NOT** publish or display information in a report that identifies the human participants directly or through identifiers linked to the participants (including photographs) without the written consent of the participant(s) (Public Health Service Act, 42, USC 241 (d)).
8. The following forms are required for studies involving human participants:
 - a. Checklist for Adult Sponsor (1), Student Checklist (1A), Research Plan/Project Summary, and Approval Form (1B)
 - b. Human Participants Form (4) for projects reviewed by school IRB or IRB approval documentation from an RRI and all applicable consents and survey(s)
 - c. Regulated Research Institution Form (1C), when applicable
 - d. Qualified Scientist Form (2), when applicable
 - e. Risk Assessment (3) when applicable

Waiver of Written Informed Consent/Parental Permission

The District Science Fair Coordinator may waive the requirement for documentation of written informed consent/assent/parental permission if the research involves only minimal risk and anonymous data collection and if it is one of the following:

1. Research involving normal educational practices
2. Research on individual or group behavior or characteristics of individuals where the researcher does not manipulate the participants' behavior and the study does not involve more than minimal risk.
3. Surveys, questionnaires, or activities that are determined by the IRB to involve perception, cognition, or game theory, etc. and that do NOT involve gathering personal information, invasion of privacy or potential for emotional distress.
4. Studies involving physical activity where the IRB determines that no more than minimal risk exists and where the probability and magnitude of harm or discomfort anticipated in the research are not greater than those ordinarily encountered in DAILY LIFE or during performance of routine physical activities.

If there is any uncertainty regarding the appropriateness of waiving written informed consent/assent/parental permission, it is strongly recommended that documentation of written informed consent/assent/parental permission be obtained.

Human Participant Risk Assessment

Use this information to help determine the level of risk involved in a study involving human participants.

All human participant projects are considered to have some level of risk.

No more than minimal risk exists when the probability and magnitude of harm or discomfort anticipated in the research are not greater (in and of themselves) than those ordinarily encountered in everyday life or during performance of routine physical or psychological examinations or tests.

More than minimal risk exists when the possibility of physical or psychological harm or harm related to breach of confidentiality or invasion of privacy is greater than what is typically encountered in everyday life. Most of these studies require documented informed consent or minor assent with the permission of parent or guardian (as applicable).

1. Examples of Greater than Minimal Physical Risk

- a. Exercise other than ordinarily encountered in everyday life
- b. Ingestion, tasting, smelling, or application of a substance. However, ingestion or tasting projects that involve commonly available food or drink will be evaluated by the Campus Science Fair Coordinator which determines risk level based upon the nature of the study and local norms.
- c. Exposure to any potentially hazardous material.

2. Examples of Greater than Minimal Psychological Risk

A research activity (e.g. survey, questionnaire, viewing of stimuli) or experimental condition that could potentially result in emotional stress. Some examples include: answering questions related to personal experiences such as sexual or physical abuse, divorce, depression, anxiety; answering questions that could result in feelings of depression, anxiety, or low self-esteem; or viewing violent or distressing video images.

3. Privacy Concerns

- a. The student researcher and Campus Science Fair Coordinator must consider whether an activity could potentially result in negative consequences for the participant due to invasion of privacy or breach of confidentiality. Protecting confidentiality requires measures to ensure that identifiable research data are not disclosed to the public or unauthorized individuals.
- b. Risk level can be reduced by protecting confidentiality or collecting data that is strictly anonymous. This requires the collection of research in such a way that it is impossible to connect research data with the individual who provided the data.

4. Risk Groups

If the research study includes participants from any of the following groups, the Campus Science Fair Coordinator and student research must consider whether the nature of the study requires special protections or accommodations:

- a. Any member of a group that is naturally at-risk (e.g. pregnant women, developmentally disabled persons, economically or educationally disadvantaged persons, individuals with diseases such as cancer, asthma, diabetes, AIDS, dyslexia, cardiac disorders, psychiatric disorders, learning disorders, etc.)
- b. Special groups that are protected by federal regulations or guidelines (e.g. children/minors, prisoners, pregnant women, students receiving services under the Individuals with Disabilities Education Act (IDEA).

See the online Risk Assessment Guide

(<https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/Resources/Risk-Assessment-Guide.pdf>)

Online Survey Consent Procedures

(<https://sspcdn.blob.core.windows.net/files/Documents/SEP/ISEF/Resources/Online-Survey-Consent-Procedures.pdf>) for more detailed information on risk assessment.

Vertebrate Animals Rules

Rules involving vertebrate animals

The following rules were developed to help student researchers adhere to the federal regulations governing professional scientists and to protect the welfare of both animal subjects and the student researcher. Health and well-being is of high priority when students conduct research with animal subjects.

San Benito CISD strongly endorses the use of non-animal research methods and encourages students to use alternatives to animal research, which must be explored and discussed in the research plan. The guiding principles for the use of animals in research include the following “Four R’s”:

- Replace vertebrate animals with invertebrates, lower life forms, tissue/cell cultures and/or computer simulations where possible.
- Reduce the number of animals without compromising statistical validity.
- Refine the experimental protocol to minimize pain or distress to the animals.
- Respect animals and their contribution to research.

Vertebrate animals, as covered by these rules, are defined as:

1. Live, nonhuman vertebrate mammalian embryos or fetuses
2. Tadpoles
3. Bird and reptile eggs starting three days (72 hours) prior to hatching
4. All other nonhuman vertebrates (including fish) at hatching or birth.

Vertebrate animal studies may be conducted at a home, school, farm, ranch, in the field, etc.

This includes:

1. Studies of animals in their natural environment.
2. Studies of animals in zoological parks.
3. Studies of livestock that use standard agricultural practices.
4. Studies of fish that use standard aquaculture practices

These projects must be reviewed and approved by a District Science Fair Coordinator.

These projects must adhere to BOTH of the following guidelines:

- The research involves only agricultural, behavioral, observational or supplemental nutritional studies on animals. AND
- The research involves only non-invasive and non-intrusive methods that do not negatively affect an animal’s health or well-being.

Display & Safety Regulations

San Benito CISD Display & Safety Mission

The mission of San Benito CISD is to ensure that all competitors qualify for competition according to the rules established in conjunction with the Scientific Review Committee and Society for Science & the Public.

San Benito CISD Display & Safety inspection process can be initiated only when all items are present at the display. A District Science Fair Coordinator will offer guidance on Display & Safety issues for projects approved by the Campus Science Fair Coordinator.

The following regulations must be adhered to when a finalist exhibits a project at the San Benito CISD Science Fair. Knowledge of these requirements is the responsibility of the Finalist, Campus Science Fair Coordinator, and District Science Fair Director.

Display Regulations

Maximum Size of Project

Depth (front to back): 30 inches or 76 centimeters

Width (side to side): 48 inches or 122 centimeters

Height (floor to top): 108 inches or 274 centimeters

Please be aware when ordering posters that the mechanism that supports the poster should conform to the maximum size limitations stated above.

1. All project materials and support mechanisms must fit within the project dimensions (including table covers).
2. Fair-provided tables at the District Science Fair will not exceed a height of 36 inches (91 centimeters).
3. If a table is used it becomes part of the project and must not exceed the allowed dimensions.
4. Nothing can be attached to the rear curtain/wall.
5. All demonstrations must be done within the confines of the finalist's booth space. When not being demonstrated, all project components must be returned to the project display and must fit within allowable dimensions as defined above.

Position of Project

The fair provided table or freestanding display must be parallel to, and positioned at, the back curtain/wall of the booth. Projects may NOT lean against the back curtain/wall.

Forms Required to be Visible and Vertically Displayed at the Project Booth

The placement of the required forms may include the front edge of the table, the display board, in a free-standing acrylic frame placed on the table top, or student research binder.

Forms required at all projects:

1. An original Official Abstract and Certification as approved
2. ISEF Project Set-up Approval Form (received on-site at the Fair)
 - a. This form documents the project has been approved by the District Science Fair Coordinator

Forms Required at Project but not Displayed

1. Forms must be available in the booth in case asked for by a judge. These forms include, but are not limited to, Checklist for Adult Sponsor (1), Student Checklist (1A), Research Plan, Approval Form (1B), and a photograph/video release form.
2. A photograph/video release form signed by the subject is required for visual images of humans (other than the finalist) displayed as part of the project.

Forms NOT to be at the Project Display Booth or in the Exhibit Hall

Completed informed consent/assent forms for a human participant study are NOT to be displayed and should NOT be present at the project display. The Finalist may include a sample (incomplete) form in their logbook or research notebook but under NO CIRCUMSTANCE should the completed informed consent/assent forms for a human participant be in the Exhibit Hall.

Photograph/Image Display Requirements

1. Any photograph/visual image/chart/table and/or graph is allowed if:
 - a. It is not deemed offensive or inappropriate (which includes images/photographs showing invertebrate or vertebrate animals/humans in surgical, necrotizing or dissection situations).
 - b. It has a credit line of origin ("Photograph taken by..." or "Image taken from..." or "Graph/Chart/Table taken from..."). If all images, etc. displayed were created by the finalist or are from the same source, one credit line prominently and vertically displayed on the backboard/poster or tabletop is sufficient. All images MUST BE properly cited. This includes background graphics, photographs and/or visual depictions of the finalist or photographs and/or visual depictions of others for which a signed photo/video release form is in a notebook or logbook at the project booth. These signed release forms must be available upon request during the set-up and inspection process, but may not be displayed
 - c. Sample release text: "I consent to the use of visual images (photos, videos, etc.) involving my participation/my child's participation in this research."
2. Finalists using any presentation or demonstration outside of a project board must be prepared to show the entire presentation to the District Science Fair Coordinator before the project is approved. All aforementioned rules apply to this presentation and the presentation may not be altered in any way after the final Display & Safety inspection. Examples of presentations that require approval include, but are not limited to PowerPoint, Prezi, Keynote, software program/simulation and other images and/or graphics displayed on a computer screen or other non-print delivery method.

Items/Materials Not Allowed on Display or at Project Booth

1. Any information on the project display or items that are acknowledgments, self-promotions or external endorsements are not allowed in the project booth.
 - a. The use of logos including known commercial brands, institutional crests or trademarks, flags unless integral to the project and approved by the SRC via inclusion in the Official Abstract and Certification.
 - b. Personalized graphic/logos that are developed to indicate a commercial purpose or viability of an established or proposed business associated with the project. The only exception is a student-created logo may be displayed at the project once.
 - c. Any reference to an institution or mentor that supported the finalist's research except as provided in the official ISEF paperwork, most notably Form 1C.
 - d. Any reference to patent status of the project.
 - e. Any items intended for distribution such as disks, CDs, flash drives, brochures, booklets, endorsements, give-away items, business cards, printed materials or food items designed to be distributed to judges or the public. Once again, handouts to judges and to the public are limited to UNALTERED photocopies of the official abstract and certification.
2. Any awards or medals.
3. Postal addresses, World Wide Web, email and/or social media addresses, QR codes, telephone and/or fax numbers of a project or finalist. Note: The only personal information that is permissible to include on the display is information that is also included on the Official Abstract and Certification (Finalist Name, School, City, State, Country). Information regarding finalist's age and grade are not permitted.
4. Active Internet or email connections as part of displaying or operating the project.
5. Any changes, modifications, or additions to projects including any attempt to uncover, replenish or return removed language or items after the approval by the District Science Fair Coordinator has been received is prohibited.
 - a. Finalists who do not adhere to this signed agreement on Project Set-up Approval Form regarding this regulation may fail to qualify for competition. I/we understand that the initial Display & Safety Inspection has been completed, but that additional reviews occur and that I/we should check back regularly. I/we will vertically display this signed form at our project at all times. I/we have not and will not store packing material under the booth. I/we further understand that returning items that have been removed by a Science Fair Coordinator and/or adding items that are not permitted after final clearance are grounds for failing to qualify for competition and/or forfeiture of all awards received.

Safety Regulations

Not Allowed at Project or Booth

Note: In the case in which a Finalist's Project includes an item that is prohibited from display, please consider taking photographs and/or documenting the significance of the prohibited item through video.

1. Living organisms, including plants
2. Glass
3. Soil, sand, rock, cement and/or waste samples, even if permanently encased in a slab of acrylic
4. Taxidermy specimens or parts
5. Preserved vertebrate or invertebrate animals
6. Human or animal food
7. Human/animal parts or body fluids (for example, blood, urine)
8. Plant materials (living, dead, or preserved) that are in their raw, unprocessed, or non-manufactured state
9. All chemicals including water. Absolutely no liquids can be utilized in the Project Display
10. All hazardous substances or devices (Example: poisons, drugs, firearms, weapons, ammunition, reloading devices, grease/oil and sublimating solids such as dry ice)
11. Items that may have contained or been in contact with hazardous chemicals (Exception: Item may be permitted if professionally cleaned and documentation for such cleaning is available). Filters (including microbial) may not be displayed unless a Science Fair Coordinator can reasonably determine that the device was cleaned or was never used (please include receipts in your notebooks and/or logbooks)
12. Sharp items (for example, syringes, needles, pipettes, knives)
13. Flames and highly flammable materials
14. Batteries with open-top cells or wet cells
15. Drones or any flight-capable apparatus unless the propulsion power source removed.
16. 3D Printers unless the power source is removed.
17. Inadequately insulated apparatus capable of producing dangerous temperatures are not permitted
18. Any apparatus with belts, pulleys, chains, or moving parts with tension or pinch points that are not appropriately shielded
19. Any display items that are deemed distracting (i.e. sounds, lights, odors, etc.)
20. Personal items or packaging materials stored underneath the booth
21. Any apparatus or project material deemed unsafe by a Science Fair Coordinator

Information on Required Abstract & Certification for ALL Projects

Completing the Abstract

After finishing research and experimentation, you are required to write a (maximum) 250 word, one-page abstract.

It is recommended that it include the following:

1. purpose of the experiment
2. procedure
3. data
4. conclusions

It may also include any possible research applications. Only minimal reference to previous work may be included.

An abstract must not include the following:

acknowledgments (including naming the research institution and/or mentor with which you were working), or self-promotions and external endorsements

1. logos or proper names of commercial products
2. work or procedures done by the mentor



2019-2020 SBCISD DISTRICT SCIENCE FAIR REGISTRATION FORM

School Name: _____

Contact Name: _____

Contact e-mail Address: _____

Classification	Individual/Group	Grade Level	Student Name	ID#	Student Contact#	Project Title	Teacher Name / Contact #	Office Use Only Project Number

Classification: **B** – Biology **C** - Chemistry **E** - Earth Science **P** - Physical Science **S** - Social Science



District Science Fair

- Judges must move as a team so that discussions about the rubric and the project can take place. This yields more consistent results. There should on be one rubric per project with judges' names on it. If a team reaches a disagreement, they should consult with the District Science Fair Coordinator(s) and the concern should be discussed to a resolution.
- The rubric should be applied to each project as accurately and fairly as possible. If there is a question about what an indicator or criteria means, then the District Science Fair Coordinator(s) should be contacted to clarify.
- If the project does not fit any set of criteria, assign the lowest score of the rubric in which all criteria is met.
- Make notes and/or comments on the rubric for feedback to the student researcher.

Judge's Signature

Printed Name

Judge's Signature

Printed Name



Research & Question

Indicator	Criteria					
	0	1	2	3	4	Score
Title	The title is NOT present OR inappropriate for the Project's Problem	The Title is not a statement and does not contain the appropriate cause and effect	The title is a statement and does not contain the appropriate cause and effect	The title is a statement and contains the appropriate cause and effect relationship, but does not attract the viewer's attention	The title is a statement and contains the appropriate cause and effect relationship, and does attract the viewer's attention	
Research	Research is missing	Research is missing three(3) piece of criteria	Research is missing two(2) pieces of criteria	Research is missing one(1) piece of criteria	Research is clear and focused, identifies contributions to the field of study, is testable using scientific method, and has real world implications	
Problem/Purpose	Problem is missing OR is not appropriate for the experiment	The problem is stated but ot in question form	The problem is stated in a question form BUT is missing the appropriate cause AND/OR effect	The problem is stated in a question and contains a cause and effect relationship	The problem is a question and clearly states the appropriate cause and effect relationship	
Total Score						

Design and Methodology



Indicator	Criteria					
	0	1	2	3	4	Score
Hypothesis	The hypothesis is missing or is not appropriate for the experiment	The hypothesis is not labeled, does not have a cause and effect relationship, is incomplete or unclear	The hypothesis is correctly labeled but does not include a cause and effect relationship	The hypothesis is stated and includes the cause and effect but not in the If...Then... format and is correctly labeled	The hypothesis is clearly stated and includes the cause and effect relationship in the IF...Then... format. It is also appropriate for the experiment and correctly labeled	
Independent Variable	The independent variable is not present or is inappropriate for the experiment	The independent variable is not correctly labeled	The independent variable is labeled but not correct for the experiment	The independent variable is accurately labeled but is not appropriately detailed	The independent variable is accurately identified, correctly labeled and appropriately detailed	
Dependent Variable	The dependent variable(s) are not present or are not appropriate for experiment	The dependent variable(s) is not correctly labeled	The dependent variable(s) is labeled but not correct for the experiment	The dependent variable(s) is accurately labeled but is not appropriately detailed	The dependent variable(s) is accurately identified, correctly labeled and appropriately detailed	
Controls	The control list is not present OR is not appropriate for the experiment	The control list is present but not labeled and/or missing most of the controls one would expect for the experiment	The control list is present and correctly labeled, but missing controls (3) needed to conduct the experiment	The control list is present and correctly labeled, but missing controls (2 or less) needed to conduct the experiment, or the list is complete, but missing consistent detail	The control list is correctly labeled, complete, and appropriate for the experiment. This list is also consistently detailed	
Control Group	Control Group is not present or inappropriate for the experiment	The control group is present but not correctly labeled	The control group is present and labeled, but not appropriate for the experiment	The control group is present and labeled and appropriate for the experiment, but missing detail	The control group is present and labeled and appropriate for the experiment, and accurately detailed	
Procedures	Procedures are not present, or inappropriate for experiment	Many of the steps are missing in the procedure making it impossible to replicate the experiment	The procedure is outlined, and someone could duplicate the experiment with moderate difficulty	The procedure is clearly written and outlined in a format that would allow someone else to duplicate with little difficulty	The procedure is clearly written and outlined in a format that would allow someone to duplicate the experiment with ease. (All quantities are included)	
Materials	Material list is absent or inappropriate for the experiment	Materials list is missing several items, making duplication difficult	Materials list is missing a few items, OR missing quantities making duplication difficult	Materials list is missing ONLY one item but is detailed (including Quantities) duplication is still possible	Materials list is accurate and detailed, including quantities	
Total Score						



Execution: Data Collection, Analysis and Interpretation

Indicator	Criteria					
	0	1	2	3	4	Score
Experimental Trials	Only one trial took place	2-4 Trials took place	5-7 Trials took place	8-9 Trials took place	10+ Trials took place	
Data Results	Results are absent OR incorrect OR Not in tables and charts	Results are present, but not in tables or graphs OR inaccurately labeled	Results are in table or graph format, but are not completely labeled. The meaning of the table is unclear.	Results are in BOTH table AND graph, BUT some labels are missing or are unclear. The meaning of the graph or table is still clear.	The results are expressed correctly in both table and graph form. The type of graphed is BEST choice and appropriate for experiment.	
Experiment Documentation	Pictures are not present that depict the results of the experiment OR they are not appropriate for the experiment	Pictures of the experiment are present, but appear to be none genuine to the experiment.	Genuine pictures of the experimental results are present, BUT are not present for each group AND the pictures are appropriate for the experiment	Genuine pictures of the experimental results are present for each group, BUT not for each test that was conducted	Genuine pictures of the experimental results are present for each group, AND for each test that was conducted	
Conclusion	Conclusion is not present OR is incorrect for the experiment	Conclusion does not conclude what happened in the experiment OR is not correctly labeled	Conclusion does not include the research or how the statistics support or refute the hypothesis	Conclusion includes the direct connection to the statistics AND generalization is made and is correct BUT literacy research that supports the experiment is not present	Conclusion includes BOTH literacy research and statistics that either support or refute the hypothesis	
Total Score						



Presentation: The following Indicators are determined using the judges experience and expertise. There are no outlined criteria; however, the judge(s) is/are expected to include rational for their determination.

Poster

Indicator	Rational				Score
	0	1	2	3	
Logical Organization					
Clarity of Graphics					
Supporting Documentation displayed					
Total Score					



Presentation: The following Indicators are determined using the judges experience and expertise. There are no outlined criteria; however, the judge(s) is/are expected to include rational for their determination

Interview

Clear, concise, thoughtful responses to questions

0	1	2	3	4	5
---	---	---	---	---	---

Understanding the basic science relevant to project

0	1	2	3	4	5
---	---	---	---	---	---

Understanding interpretation and limitations of the results and conclusion

0	1	2	3	4	5
---	---	---	---	---	---



Presentation: The following Indicators are determined using the judges experience and expertise. There are no outlined criteria; however, the judge(s) is/are expected to include rational for their determination

Interview (continued)

Degree of independence in conducting the project

0	1	2	3	4	5
---	---	---	---	---	---

Recognition of potential impact in science, society, and/or economics

0	1	2	3	4	5
---	---	---	---	---	---

Quality of ideas for further research

0	1	2	3	4	5
---	---	---	---	---	---

For team projects, contributions to and understanding of the project by all members

0	1	2	3	4	5
---	---	---	---	---	---

Information on Required Abstract & Certification for ALL Projects at ISEF

** This form may not be relevant for your regional or state fair; please refer to instructions from your affiliated fair.**

In ADDITION to the basic form requirements for ALL Projects and any other requirements due to specific areas of research, an Abstract & Certification is required at the conclusion of research. Details on this requirement follow.

Completing the Abstract

After finishing research and experimentation, you are required to write a (maximum) 250 word, one-page abstract. For ISEF, this abstract is written in the online Finalist Questionnaire portal and submitted electronically.

It is recommended that it **include the following:**

- a. purpose of the experiment
- b. procedure
- c. data
- d. conclusions

It may also include any possible research applications. Only minimal reference to previous work may be included.

An abstract **must not include the following:**

- a. acknowledgments (including naming the research institution and/or mentor with which you were working), or self-promotions and external endorsements
- b. logos or proper names of commercial products
- b. work or procedures done by the mentor

Completing the Certification

At the bottom of the Abstract & Certification form there are six questions. Please read each carefully and answer appropriately. The ISEF Scientific Research Committee will review and approve the abstract and answers to the questions.

Revisions are permitted via the online portal through late April (please reference the system for current year deadlines.)

Once approved, two copies of the ISEF Abstract & Certification will be provided with a gold embossed seal; only this version of the abstract may be displayed or distributed.

NOTE: Your abstract must be on the International Science and Engineering Fair Abstract & Certification form and have the ISEF Scientific Review Committee approval seal before it is displayed or handed out. No other format or version of your approved Abstract will be allowed for any purpose at the ISEF.

ISEF Sample Abstract & Certification

Project Title	Project ID
Finalist Name(s)	Category Pick one only-- mark an "X" in box at right
Finalist School, City, State/Province, Country	
Abstract Body	

1. As a part of this research project, the student directly handled, manipulated, or interacted with (check all that apply):

- | | |
|---|---|
| ☐ human participants | ☐ potentially hazardous biological agents |
| ☐ vertebrate animals | ☐ microorganisms ☐ rDNA ☐ tissue |

2. This abstract describes only procedures performed by me/us, reflects my/our own independent research, and represents one year's work only.

- ☐ yes ☐ no

3. I/We worked or used equipment in a regulated research institution or industrial setting.

- ☐ yes ☐ no

4. This project is a continuation of previous research.

- ☐ yes ☐ no

5. My display board includes non-published photographs/visual depictions of humans (other than myself):

- ☐ yes ☐ no

6. I/We hereby certify that the abstract and responses to the above statements are correct and properly reflect my/our own work.

- ☐ yes ☐ no



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.
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	Potentially Hazardous Biological Agents
☐ Vertebrate Animals	☐ Microorganisms ☐ rDNA ☐ Tissues
5. ☐ Items to be completed for **ALL PROJECTS**

☐ Adult Sponsor Checklist (1)	☐ Research Plan/Project Summary
☐ 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)	

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)

Adult Sponsor's Printed Name

Signature

Date of Review (mm/dd/yy)

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: _____ School Phone: _____
School Address: _____

4. Adult Sponsor: _____ Phone/Email: _____
5. Does this project need SRC/IRB/IACUC or other pre-approval? ☐ Yes ☐ No Tentative start date: _____
6. Is this a continuation/progression from a previous year? ☐ Yes ☐ No
If Yes:
a. Attach the previous year's ☐ Abstract **and** ☐ Research Plan/Project Summary
b. Explain how this project is new and different from previous years on
☐ Continuation/Research Progression Form (7)
7. This year's laboratory experiment/data collection:

Actual Start Date: (mm/dd/yy) _____ End Date: (mm/dd/yy) _____
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-home and non-school work site(s):
Name: _____
Address: _____

Phone/ email _____
10. Complete a Research Plan/Project Summary following the Research Plan/Project Summary instructions and attach to this form.
11. An abstract is required for all projects after experimentation.

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.
 - 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.
 - d. **BIBLIOGRAPHY:** List 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 find your participants? How will they be invited to participate?
 - 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 benefits to society or participants.
 - e. **Protection of Privacy:** Will identifiable information (e.g., names, telephone numbers, birth dates, email addresses) be collected? Will data be confidential/anonymous? If anonymous, describe how the data will be collected. If not anonymous, what procedures are in place for safeguarding confidentiality? 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 justification for use of vertebrates.
 - 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 justification of the numbers planned.
 - e. Describe housing and oversight of daily care.
 - f. Discuss disposition of the animals at the end of the study.
3. **Potentially hazardous biological agents research:**
 - a. Give source of the organism and describe BSL 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.
 - Material Safety Data Sheets are not necessary to submit with paperwork.

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

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)

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.

Student's Name(s) _____

Title of Project _____

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

(Responses must be on the form as it is required to be displayed at student's project booth; please do not print double-sided.)

The student(s) conducted research at my work site:

1. Did you or your proxy (e.g. graduate student, postdoc, employee) mentor or provide substantial guidance to the student researcher? ☐ Yes ☐ No
 - a. If no, describe your and/or your institution's role with the student researcher and his/her project (e.g. supervised use of equipment on site without ongoing mentorship and sign below.
 - b. If yes, complete questions 2 – 5.
2. Is the student's research project a subset of your ongoing research or work? ☐ Yes ☐ No

Use questions 3, 4 and 5 to detail how the student's project was similar and/or different from ongoing research or work at your site.
3. Describe the independence and creativity with which the student:
 - a. developed the hypotheses or engineering goals for the research project
 - b. designed the methodology for his/her research project
 - c. analyzed and interpreted data

(Continued on next page)

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

Student's Name(s) _____

4. Detail the student's role in conducting the research (e.g. data collection, specific procedures performed). Differentiate what the student observed and what the student actually did.

5. Did the student(s) work on the project as part of a group? ☐ Yes ☐ No
If yes, how many individuals were in the group and who were they (e.g. high school students, graduate students, faculty, professional researchers)?

I attest that the student has conducted the work as indicated above and that any required review and approval by institutional regulatory board (IRB/IACUC/IBC) has been obtained. Copies are attached if applicable.
I further acknowledge that the student will be presenting this work publicly in competition and I have communicated with the student research regarding any requirements for my review and/or restrictions of what is publicized.

Supervising Adult's Printed Name

Signature

Title

Institution

Date Signed (must be after experimentation) (mm/dd/yy)

Address

Email/Phone

Qualified Scientist Form (2)

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

Student's Name(s) _____

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 participants ☐ Yes ☐ No
 - b. Vertebrate animals ☐ Yes ☐ No
 - c. Potentially hazardous biological agents (microorganisms, rDNA and tissues, including blood and blood products) ☐ Yes ☐ No
 - d. Hazardous substances and devices ☐ Yes ☐ No
3. Will this study be a sub-set of a larger study? ☐ Yes ☐ No
4. 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: _____

To be completed by the Qualified Scientist:

I certify that I have reviewed and approved the Research Plan/Project Summary 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/Project Summary. 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 (mm/dd/yy)

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

I certify that I have reviewed the Research Plan/Project Summary 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 (mm/dd/yy)

Phone

Email

Risk Assessment Form (3)

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

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

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/Project Summary 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

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/Designated 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)**

- Risk Level (check one): ☐ Minimal Risk ☐ More than Minimal Risk
- Qualified Scientist (QS) Required (Form 2): ☐ Yes ☐ No
- Designated Supervisor (DS) Required (Form 3): ☐ Yes ☐ No
- Written Minor Assent required for minor participants:
☐ Yes ☐ No ☐ Not applicable (No minors in this study)
- Written Parental Permission required for minor participants:
☐ Yes ☐ No ☐ Not applicable (No minors in this study)
- Written Informed Consent required for participants 18 years or older:
☐ Yes ☐ No ☐ Not applicable (No participants 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, 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.

Printed Name	Degree/Professional License
Signature	Date of Approval (Must be prior to experimentation.) (mm/dd/yy)
Educator	
Printed Name	Degree/Professional License
Signature	Date of Approval (Must be prior to experimentation.) (mm/dd/yy)
School Administrator	
Printed Name	Degree/Professional License
Signature	Date of Approval (Must be prior to experimentation.) (mm/dd/yy)

Human Informed Consent Form

Instructions to the Student Researcher(s): An informed consent/assent/permission 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 participant (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 sample form or may copy ALL elements of it into a new document.

If the form is serving to document parental permission, a copy of any survey or questionnaire must be attached.

Student Researcher(s): _____

Title of Project: _____

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 area below.

Purpose of the project:

If you participate, you will be asked to:

Time required for participation:

Potential Risks of Study:

Benefits:

How confidentiality will be maintained:

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

Adult Sponsor/QS/DS: _____ Phone/email: _____

Voluntary Participation:

Participation in this study is completely voluntary. If you decide not to participate there will not be 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: _____
(mm/dd/yy)

Research Participant Printed Name: _____

Signature: _____

Parental/Guardian Permission (if applicable)

Date Reviewed & Signed: _____
(mm/dd/yy)

Parent/Guardian Printed Name: _____

Signature: _____

Vertebrate Animal Form (5A)

Required for all research involving vertebrate animals that is conducted in a school/home/field research site.
(SRC approval required before experimentation.)

Student's Name(s) _____

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. Add an additional page as necessary.
3. What will happen to the animals after experimentation?
4. Attach a copy of wildlife licenses or approval forms, as applicable
5. The ISEF Vertebrate Animal Rules require that any death, illness or unexpected weight loss be investigated and documented by a letter from the qualified scientist, designated supervisor or a veterinarian. If applicable, attach this letter with this form when submitting your paperwork to the SRC prior to competition.

To be completed by Local or Affiliate Fair Scientific Review Committee (SRC) BEFORE experimentation.

Level of Supervision Required for agricultural, behavioral or nutritional studies (select one):

- ☐ 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.

Local or Affiliate Fair SRC Pre-Approval Signature:

SRC Chair Printed Name

Signature

Date of Approval (must be prior to experimentation)
(mm/dd/yy)

To be completed by Veterinarian:

- ☐ I have reviewed this research and animal husbandry with the student before the start of experimentation.
- ☐ I have approved the use and dosages of prescription drugs and/or nutritional supplements.
- ☐ I will provide veterinary medical and nursing care in case of illness or emergency. (Fees may apply.)

Printed Name

Email/Phone

Signature

Date of Approval (mm/dd/yy)

To be completed by Designated Supervisor or Qualified Scientist when applicable:

- ☐ 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 will directly supervise the experiment.

Printed Name

Email/Phone

Signature

Date of Approval (mm/dd/yy)

Vertebrate Animal Form (5B)

Required for all research involving vertebrate animals that is conducted in at a Regulated Research Institution. (IACUC approval required before experimentation. Form must be completed and signed after experimentation.)

Student's Name(s) _____

Title of Project _____

Title and Protocol Number of IACUC Approved Project _____

To be completed by Qualified Scientist or Principal Investigator:

1. Species of animals used: _____ Number of animals used: _____
2. Describe, in detail, the role of the student in this project: animal procedures and related equipment that were involved, oversight provided and safety precautions employed. (Attach extra pages if necessary.)
3. Was there any weight loss or death of any animal? If yes, attach a letter obtained from the qualified scientist, designated supervisor or a veterinarian documenting the situation and the results of the investigation.
4. Did the student's project also involve the use of tissues?
☐ No
☐ Yes; complete Forms 6A and 6B
5. What laboratory training, including dates, was provided to the student?
6. Attach a copy of the Regulated Research Institution IACUC Approval. A letter from the Qualified Scientist or Principal Investigator is not sufficient.

Qualified Scientist/Principal Investigator

Printed Name _____

Signature _____

Date (mm/dd/yy) _____

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/DESIGNATED 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 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 procedures that will be used to minimize risk (personal protective equipment, hood type, etc.).
4. What final biosafety level do you recommend for this project given the risk assessment you conducted?
5. Describe the method of disposal of all cultured materials and other potentially hazardous biological agents.

SECTION 2: TRAINING

1. What training will the student receive for this project?
2. Experience/training of Designated 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 DESIGNATED 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. This study has been reviewed by the local SRC and the procedures have been approved prior to experimentation.
- ☐ 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 IACUC/IBC approval _____
- ☐ Experimentation on the microorganisms/cell lines/tissues to be used in this study will be conducted at a Regulated Research Institution, which does not require pre-approval for this type of study. The SRC has reviewed that the student received appropriate training and the project complies with ISEF rules.

CERTIFICATION – To be SIGNED by the QUALIFIED SCIENTIST or DESIGNATED 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)

SECTION 4: CERTIFICATION – To be completed by the LOCAL or AFFILIATED FAIR SRC

The SRC has seen this project's research plan and supporting documentation and acknowledges the accuracy of the information provided above.

SRC Printed Name

Signature

Date of review (mm/dd/yy)

Human and Vertebrate Animal Tissue Form (6B)

Required for research involving fresh/frozen tissue (including primary cell lines, human and other primate established cell lines and tissue 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(s) _____

Title of Project _____

To be completed by Student Researcher(s):

1. What vertebrate animal tissue will be used in this study? Check all that apply.
 - ☐ Fresh or frozen tissue sample
 - ☐ Fresh organ or other body part
 - ☐ Blood
 - ☐ Body fluids
 - ☐ Primary cell/tissue cultures
 - ☐ Human or other primate established cell lines
2. Where will the above tissue(s) be obtained. If using an established cell line include source and catalog number.
3. If the tissue will be obtained from a vertebrate animal study conducted at a research institution attach a copy of the IACUC certification with the name of the research institution, the title of the study, the IACUC approval number and a 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 U.S. Occupational Safety and Health Act, 29CFR, Subpart Z, 1910.1030 - Blood Borne Pathogens.

Printed Name

Signature

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

Title

Phone/Email

Institution

Continuation/Research Progression Projects Form (7)

Required for projects that are a continuation/progression in the same field of study as a previous project.

This form must be accompanied by the previous year's abstract and Research Plan/Project Summary.

Student's Name(s) _____

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 previous year and earlier projects.

Components	Current Research Project	Previous Research Project: Year: _____
1. Title		
2. Change in goal/ purpose/objective		
3. Changes in methodology		
4. Variable studied		
5. Additional changes		

Attached are:

☐ Abstract and Research Plan/Project Summary, 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(s)

Signature

Date of Signature (mm/dd/yy)