Official Rules

for the

2026 KERN COUNTY REGIONAL SCIENCE FAIR

Middle School & Senior High Division (6-12)

March 2-3, 2026
Mechanics Bank Convention Center

through

The Kern County Superintendent of Schools Office

Kern County Science Foundation
1300 17th Street – City Centre
Bakersfield, CA 93301-4533

REGULATIONS REGARDING ELECTRONIC DEVICES

Although electronic devices such as student cell phones are permitted at the Kern County Science Fair, the following guidelines will be enforced:

- All devices (phones, games, etc.) should be set to silent or vibrate mode
- No talking on phone
- No taking photos or video on phone
- Disengage from all portable devices as judges approach your project – first impressions are important!
- Be respectful of your neighbors as they are being judged

We appreciate your support of these guidelines which will promote a quiet and respectful environment for both judges and participants.

Failure to adhere to the above policies may result in devices being removed by the floor coordinators.

KERN COUNTY REGIONAL SCIENCE FAIR

Important Dates:

December 15, 2025:	**School/District Intent to Participate Deadline**
January 16, 2026:	**"Restricted Project" Deadline**
January 16, 2026:	**Student Project Entry Form Deadline** *Entries after January 16, 2026 may be accepted for display only, but will not compete for awards.*
March 2, 2026:	**Project Set-Up** ***Mechanics Bank Convention Center*** *2:00pm – 7:00pm ONLY*
March 3, 2026:	**Doors Open** 8:00am
	Speaker 9:00am
	Judging (Students Present) 10:00am – 1:00pm
	Public Viewing 1:00pm – 3:00pm
	Awards Program 3:00pm (Grades 4 & 5) and 4:00pm (Grades 6 – 12)
	Project Removal 5:00pm – 6:00pm

IMPORTANT REMINDERS

- The Science Review Committee will place each project in its appropriate category. The committee decisions are final.
- Each participating school should plan to attend the coaches' workshop on Thursday, September 18th, 2025. In order to enter Restricted Projects, workshop attendance is strongly encouraged.
- All registration and restricted project approvals will be submitted though the online registration system.

Introduction: What the Science Fair is About

Scientists do some of the most important and interesting work in our society, and try to find answers to questions by observing and doing experiments. They then think about what they observe and the results of their experiments. Sometimes they get a definite answer to their questions; sometimes the results lead to new questions and new experiments. As this process goes on, they understand more and more. The Science Fair will give you a chance to actually do the kind of things scientists do. You will find out that it really is possible to ask questions about our world and get answers to those questions. And most of all, you will learn a lot and have fun doing it.

Rules for Entering a Project in the Kern County Science Fair Middle School and Senior High Division

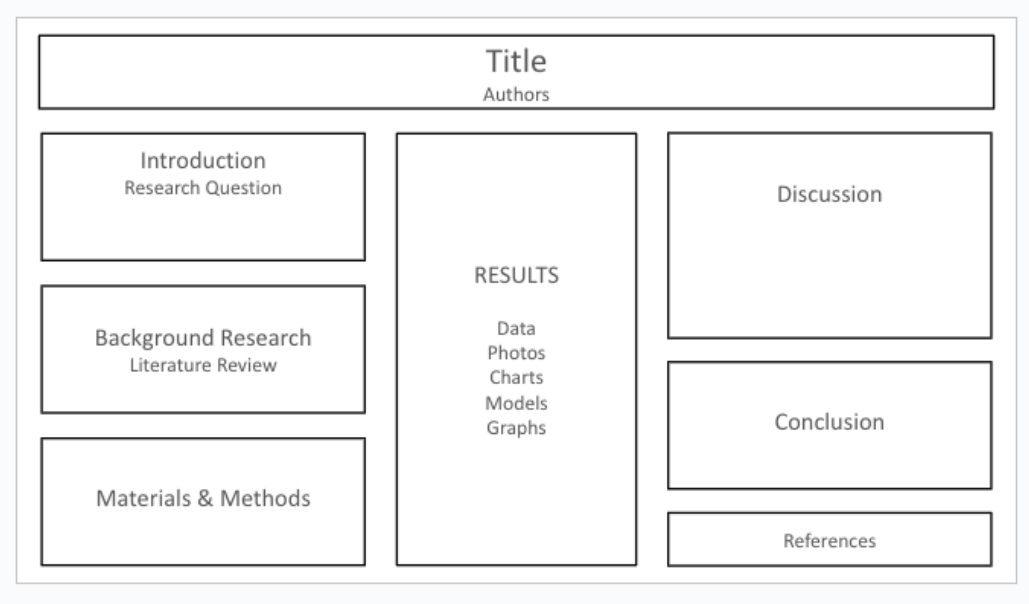
1. Your school or district must register its Intent to Participate. In addition, the Science Fair coach or representative should attend the coaches' workshop on September 18, 2025. Coach attendance is strongly encouraged.
2. You must be a Kern County student in grades 6-12.
3. Your project must be selected by your school or school district.
4. You must register for the Kern County Regional Science Fair by January 16, 2026 at https://ca-kern.zfairs.com
5. Projects entered after January 16, 2026 will be **for display only**. They will *not* be judged and will not be eligible for awards.
6. Only one project may be submitted by a student. Team projects are allowed, but a team size cannot exceed three students. For team projects, each member of the team must complete a separate registration account. Prior year's projects are not eligible for submission unless the project is part of a longitudinal study.

7. There is an entry fee of $15.00 *per student*. Please note that it is not the intent of the Kern County Science Foundation to eliminate any student from competition because of an inability to pay. In such cases, please contact the Kern County Science Foundation at (661) 636-4220.
8. Each student is responsible for the entry fee. However, some schools may pay fees for all students.
9. The quality of the project must be acceptable for entry in the Kern County Regional Science Fair. This means that the project should:
    a) Exhibit the process of scientific inquiry and reasoning using the updated research poster format commonly accepted at universities. A strong poster should include:
        - Title – Concise and informative, capturing the focus of the investigation.
        - Introduction / Research Question – Identify the driving question or problem being investigated and explain its significance.
        - Background Research – Summarize relevant studies, concepts, or prior findings that provide context for the investigation.
        - Materials and Methods – List the materials used and describe the procedures or design of the investigation clearly enough for others to replicate.
        - Results – Present data using graphs, tables, or figures in an organized way.
        - Discussion – Explain what the data shows, identify patterns, and connect evidence to possible explanations.
        - Conclusion – Summarize key findings, highlight implications, note limitations, and suggest next steps or future investigations.
        - References – Cite relevant sources and recognize any support received.
10. Applications may be rejected for not following one or more of the above rules.

Send entry fees to the Kern County Science Foundation, 1300 17th Street, City Centre, Bakersfield, CA 93301-4533. They must be received on or before January 16, 2026.

Project Display Rules

1. The project display board must be sturdy and self-standing. There are three sizes of project display boards. Size "A" must fit within a rectangular space that is 81 cm (32 inches) wide by 38 cm (15 inches) deep and can be no more than 91 cm (36 inches) tall. Size "B" (shown below) must fit within a rectangular space that is 122 cm (48 inches) wide by 76 cm (30 inches) deep and can be no more than 198 cm (78 inches) in height measured from the table or, for size "C", 274 cm (108 inches) in height measure from the floor. Displays which are admitted but are later changed to exceed these space limitations will be disqualified until brought into compliance. See the diagram below for some idea of what a table display might look like.



This is the suggested exhibit format for project size "B".
To organize and display your project, use your own creative ability.

2. Projects must be set up and ready for judging before judging begins.
3. Students must be present at their display during the judging period, or the project will not be judged. For team projects, at least one half of the team members must be present. (One team member for a team of two; two team members for a team of three.)
4. The student's *original* laboratory notebook must be present for inspection during judging.
5. Electronic media such as computers or video displays may be used. If a video presentation is included, there is no assurance that the judges will view all or part of it. In any case, the duration of a video presentation should be no more than two minutes.

6. Projects requesting electrical power will be provided with one 110-volt outlet. You must bring your own UL approved 25 foot three-prong grounded extension cord. The Science Fair does not provide extension cords.
7. No gas or water outlets are provided.
8. No flames are permitted.
9. No glass items are permitted.
10. Use of dry ice is not permitted.
11. Photographs which identify the student or team members are fine. Other people may be shown in photographs only with their written permission. [Public Health Service Act, 42, USC 241 (d)]. See Forms Section.
12. No liquids are permitted.
13. Fair officials reserve the right to remove any project or item(s) which they seem hazardous or inappropriate, including cell phones found to be in use during judging.
14. The following items may **NOT** be displayed and are not allowed in the Science Fair premises.
    a) Anything you cannot afford to lose. The Science Fair does not take responsibility for lost or stolen items.
    b) Contraceptives.
    c) Cultures of bacteria or molds.
    d) Hazardous or otherwise dangerous materials or items. This includes glassware, mercury, medicines of any kind, controlled substances, and materials which are corrosive (such as acids), easily flammable, toxic (poisonous), radioactive, or carcinogenic (cancer causing). Any substance labeled “keep out of reach of children” is considered potentially hazardous.
    e) Human parts.
    f) Hypodermic syringes.
    g) Live animals, plants or food, or other living things.
    h) Preserved animals, including animal parts or fluids (examples: teeth, blood, other body fluids, bones, feathers, animal tissue).
    i) Sharp items such as razor blades, knives, and dissection kits.
    j) Soil.
    k) Unlabeled containers.
    l) Photographs, drawings, or descriptions which are offensive.
15. At least five (5) copies of your abstract must be available at your display. You will give one of these to each judge when he/she interviews you.

IMPORTANT: LOSS OR DAMAGE Valuable equipment, such as computers or scientific instruments, may be used as part of the display only if the **student participant** takes full responsibility for any loss or

damage. Any valuable items should be on display only when the student is present, including the judging period. The Kern County Regional Science Fair assumes no responsibility for loss or damage of any project or a part of any project. Students should retain copies of their laboratory notebooks and other printed materials.

Categories

Science Fair officials will review all Project Abstracts and assign projects to the appropriate categories. Intermediate Division categories may include, but are not limited to: Animal Sciences, Behavioral Sciences, Biochemistry, Cellular and Molecular Biology, Chemistry, Computer Science, Earth and Planetary Science, Energy and Transportation, Engineering: Electrical and Mechanical, Engineering: Materials and Bioengineering, Environmental Management, Environmental Sciences, Materials and Product Science (Grades 4-8 only), Mathematical Sciences, Medicine and Health Sciences, Microbiology, Physics and Astronomy, and Plant Sciences. The Science Fair officials may develop additional categories as needed.

Awards

A Certificate of Participation will be presented to each exhibitor.

Medallions will be presented to the top three projects in each category or group of categories if they are combined for judging. Honorable mention ribbons may be awarded to other students at the discretion of the judges. Scholarships may be available through the Kern County Science Foundation for high school seniors. For information, see https://kern.org/science-foundation/scholarships/. First and second place winners in each category in the middle school and senior high school division *may* be eligible to participate in the CA State Science Fair. However, being in a category with a limited number of entries does NOT mean an automatic invitation to the CA State Science Fair. Judges are asked to recommend which projects should advance to State competition. Additional awards, some monetary, are often presented in addition to the above listed awards to individuals or even schools.

Participation in the CA State Science Fair is optional. Application fees, deadlines, transportation and housing are the responsibility of the participants.

By participating in the Kern County Regional Science Fair, student, parent, teacher, and coach agree to the following creed:

Participant's Creed

I am a parent, coach, or student participating in the Kern County Regional Science Fair. I agree that I will be courteous and model good sportsmanship at all times. I am aware that the decisions of the judges is final. I will respect the judges' decisions and discuss any concerns with the event coordinator in a respectful manner.

School Responsibilities

Projects selected must:

- Meet Science Fair criteria for scientific quality.
- Meet all guidelines and submission deadlines, including those for Restricted Projects.
- Be completed under safe conditions.

Rules and Regulations School officials should be thoroughly familiar with the Science Fair participation rules and Restricted Project regulations. School official signatures are **required for all students** through the online registration system https://ca-kern.zfairs.com and, if needed, on some restricted projects forms. School official approvals are not required on the Qualified Scientist/Designated Supervisor Form unless a staff member meets the guidelines as a qualified scientist or designated supervisor (advanced science degree in appropriate field). A school representative is strongly encouraged to attend the coaches' workshop on **September 18, 2025**.

Teacher/Adult Sponsor The school must designate a Teacher/Adult Sponsor for each student project entered. The Teacher/Adult Sponsor is responsible for the health and safety of the student conducting the research and of humans or animals used as subjects. This individual reviews the student's project plan to make sure that experimentation is done within local, federal, and Kern County Regional Science Far rules, ascertains that approvals are submitted by other adults involved in approving or supervising any part of the project, and certifies that the project is sponsored by the school as an official entry in the Kern County Regional Science Fair. The Teacher/Adult Sponsor may call upon a Qualified Scientist (one with an earned doctoral/professional degree in the biomedical sciences or other appropriate discipline) or Designated Supervisor for approval(s) required for Restricted Projects. The Teacher/Adult Sponsor

must acknowledge on the entry form that the student has complied with all research regulations. This is particularly important for Restricted Projects.

Institutional Review Board (IRB) For some projects, those involving human subjects, for example, an Institutional Review Board should review the proposed Research Plan. This Board should be established at the school site, if possible, and consist of:

1) A teacher
2) A school administrator
3) One of the following: psychologist, psychiatrist, medical doctor, or nurse

The nurse may come from a school district, county office, or private agency. IRB members should be familiar with State, Federal, and Science Fair regulations. If a school has difficulty in establishing an Institutional Review Board, assistance is available from the Science Fair Coordinator.

Student Forms The Teacher/Adult Sponsor has the responsibility for registering the school and students as well as restricted project approvals on or before the appropriate deadline.

School Participation Quotas These are based on size and history of participation; each school had given its quote. Call (661) 636-4640 or email miroy@kern.org if you have any questions.

Projects will be selected by the local school. It is recommended that this selection be based on school science fair competitions.

Student/Parent Responsibilities

Each student is responsible for following the rules of the Kern County Regional Science Fair, including online registration, meeting restricted project and other deadlines, fee payments, and project completion. Students should check with their teacher/adult sponsors to make sure they have created their own account and registered the school.

After January 16, 2026, projects may not be entered for competition.

Kern County Regional Science Fair Location

The Science Fair will be held at the Mechanics Bank Convention Center, 1001 Truxtun Avenue, Bakersfield, CA 93301.

Directions to the Mechanics Bank Convention Center:

Take California Avenue exit (east) to Chester Avenue.

Take Chester Avenue north to Truxtun Avenue.

Take Truxtun Avenue east to the Mechanics Bank Convention Center.

Developing a Strong Science Fair Project

We all have questions about our world. You might wonder why the sky is blue or why plants grow better when watered regularly. A good Science Fair project begins with curiosity and develops into an investigation that uses evidence to address a scientific question.

A project typically starts with an interest in something that may not even seem very "scientific" at first. As you explore the topic, you will refine your question and design a way to investigate it. The focus is not on proving a guess but on using background research, data collection, and analysis to construct explanations. Often, the investigation raises new questions that can be explored in future projects—this is how science progresses.

I. *Steps of the Process*

Your Science Fair project should follow the structure used in university-style scientific research posters:

- Title – A concise statement of your project's focus.
- Introduction / Research Question – Clearly state the question you are investigating and why it matters.
- Background Research / Literature Review – Summarize what is already known about your topic from books, articles, and reliable sources.
- Materials and Methods – List the tools, equipment, or resources used and explain how you carried out the investigation in enough detail for others to replicate.
- Results – Present the data you collected, using graphs, tables, figures, or images to make it clear.
- Discussion – Explain what your results show, highlight patterns, and connect the evidence to possible explanations.
- Conclusion – Summarize your findings, note any limitations, and suggest new questions or next steps for further research.
- References – Cite your sources and credit those who supported your work.

II. Sharing Your Work

When preparing your display and presentation for the Science Fair, be ready to explain:

- The research question and why you chose it.
- Your methods and how you collected your data.
- What your results show and how you interpreted them.

- The conclusions you reached and the new questions your project raised.

It's important to remember that the purpose of a Science Fair project is not simply to "prove" an idea. The goal is to engage in the process of scientific inquiry: asking meaningful questions, investigating them with care, and sharing what you discovered. Even if your results are unexpected or don't give a clear answer, you have still done valuable scientific work.

Students are most successful when they choose projects that genuinely interest them. Judges often ask why a project was chosen, and the best work usually comes from curiosity-driven investigations. Projects pursued only out of obligation rarely achieve the same level of engagement or quality.

What to Expect and Some Tips on How to Prepare for the Judging Process

1. **Please remember that the judges are volunteering their time. Their decisions will be based on their best judgement and Science Fair guidelines and will be final.**
2. Be aware that the judges appreciate a display that clearly shows the intent and results of experimentation, and a presentation that concisely describes what was done and what was concluded. The judges want to feel that you are familiar enough with your project to discuss it comfortably and answer questions about it. Memorized speeches or rambling descriptions of trivial details hinder the work of judges, who need to be able to pose good questions in order to thoroughly understand the project. If you work on a team project, the judges will expect more substantial science.
3. You should prepare an oral summary of important points that you can present in no more than 60 seconds. Your judges will already have read your abstract, so if you've done a good job, your summary will remind them of questions that occurred to them earlier.
4. Following your summary, you may find it useful to present several prepared short descriptions of important aspects of your project. You know your project better than anyone, so you should have the best ideas of what is important. You should prepare answers for such questions as:

   "Where did you get the idea for this project?"
   "What is special or distinctive about your project?"
   "What is the next thing you would do with your results?"
   "What questions has your project now generated?"

   You might also prepare for the questions you hope the judges will ask.

5. For team projects, one person could act as the team spokesperson and present the oral summary of this job could be shared among the team members. In any case, all team members should understand their roles clearly and be able to carry them out. This summary should include the rationale for the project being a group, rather than an individual enterprise, and how each member contributed. Each member of the group should be fully knowledgeable about the project and be prepared to discuss his/her part.
6. You will be interviewed by at least two different judges for your category who will spend about five to eight minutes discussing your project with you. The judges may talk to you one at a time or in groups. It is difficult to space these interviews equally, so don't get discouraged if there is a long wait between judges. Don't worry about comparing the number of your judging sessions with your neighbors. You, or they, may be getting Special Recognition Award interviews.
7. Many judges prefer to learn about your project by asking questions. Be prepared for them to interrupt your presentation.

8. You probably will not be able to predict all of the questions you will be asked. Some of the judges are experts in their fields, so they may ask you questions you cannot answer. Don't let this bother you. Just answer truthfully and to the best of your ability. If you don't know the answer to a question, say so. DO NOT try to "snow" or bluff a judge.
9. The Kern County Regional Science Fair is a major local event. Your interviews with the judges might be covered by newspaper reporters (some with photographers), radio reporters, TV cameras (with their bright lights) and others. Videos might be used in promotional materials for future science fairs.

The above section was adapted and revised from material first prepared for the California State Science Fair.

Restricted Projects

A restricted project is any project which may require additional adult supervision due to potentially harmful materials or machinery (i.e. firearms), handling or non-human vertebrates, or topics involving human subjects. All restricted projects require special approval **before you can begin.** Project supervision by a Qualified Scientist or Designated Supervisor is required. In addition, approval by the school Institutional Review Board and/or the Scientific Review Committee sometimes will be needed, Project advisors, whether they are teachers or qualified scientists/designated supervisors, must certify their approval(s) through the online registration system that the student has complied with all project regulations.

The **Qualified Scientist** must possess an advanced earned degree (examples, Ph.D., M.D., D.D.S.) in a field related to the project. Further, he/she must be familiar with all regulations – local, state and federal – which relate to that project. The Qualified Scientist and the Teacher/Adult Sponsor may be the same person if qualified as indicated above, as long as that person is not the student's parent.

Designated Supervisor: Supervises the work approved by the Qualified Scientist. Generally this person will have practical experience related to the specific project to be supervised. Such projects can include those involving DNA, animal tissues, human research, hazardous materials, toxins, or controlled substances.

Designated supervisors might be 4-H project leaders, butchers, farm advisors, single subject credentialed teachers, police officers, or others, depending on the project. The Teacher/Adult Sponsor may act as a Designated Supervisor.

Scientific Review Committee (SRC): This committee is convened by Kern County Superintendent of Schools and reviews all Restricted Projects. Its formal approval is required for some projects.

In general terms, the Designated Supervisor is the person who promises to provide additional supervision in the course of a project. That can include anything necessary to ensure a student's safety. Examples

might be overseeing a student who is using bleach, lighting a match or climbing a ladder. If a student is surveying strangers, the Designated Supervisor would remain nearby in order to guarantee that the student is in a safe environment.

A project which requires a Qualified Scientist is one which needs a higher level of scientific oversight. Examples might include supervision for a student handling chemicals or medications. Projects using animals would need a scientist willing to oversee the humane treatment of those animals.

The County's Scientific Review Committee will evaluate the risks associated with each project and determine if there is a need for either a Designated Supervisor or a Qualified Scientist. The decisions of the Committee are final.

The following pages include descriptions, and the forms/approvals needed for each type (I-VIII) of restricted project. These have been included in the forms section of this booklet.

I. Human Subjects

- Approval by the school Institutional Review Board (IRB)
- Completion of the Risk Assessment Form

A. Rules

1. All research projects involving human subjects must be reviewed and approved by an Institutional Review Board (IRB) before the research begins. IRB is established at each school site.
2. Human subjects research includes projects involving: Subjects participating in physical activities (e.g. physical exertion, ingestion of any substance, any medical procedure), psychological and opinion studies (e.g. survey, questionnaire, test of any kind), behavioral observations, studies in which the researcher is the subject of the research.
3. When developing the Research Plan student researchers must evaluate and minimize the physical and/or psychological risks to their human subjects.
4. The documentation of written Informed Consent is required for most projects. Children/Minors participating in most research will require special consent procedures including assent of the child/minor and consent of the parent/guardian. Children/minors are persons who have not attained the legal age for consent; in most jurisdictions the legal age is 18.
5. A student may observe and collect data for analysis of medical procedures and medication administration only under the direct supervision of a qualified professional. The qualified professional must be named in the research protocol to be specifically approved by the IRB. Students are prohibited from administering medications and performing medical procedures on human subjects. The IRB must confirm that the student is not violating the medical practice act of the particular state or nation in which he/she is conducting the research.

6. Student researchers may NOT publish or display information in a report that identifies the human subjects directly or through identifiers linked to the subjects (including photographs), without written consent. [Public Health Service Act, 42, USC 241(d)].
7. All standardized tests that are not in the public domain must be administered, scored and interpreted by a qualified scientist as required by the instrument publisher. Any and all use and distribution of the test must be in accordance with the publisher's requirements, including procurement of legal copies of the instrument.
8. The use of the internet to obtain data for human subject's research is permissible. The Student Researcher, Adult Sponsor and IRB must take additional care to ensure that survey responses remain confidential and that, when required, informed consent is documented.
9. Any proposed changes to a previously approved research plan must be resubmitted to the IRB for another complete review. The proposed changes must not be implemented until the modified project is approved by the IRB.

B. Risk Evaluation

Once a study population is chosen, the student researcher must assess any potential physical and/or psychological risks when developing the research plan. In evaluating risk, students and IRBs must use the following federal definition of minimal risk as a guide: 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 DAILY LIFE or during performance of routine physical or psychological examinations or tests.

Risk Groups: The following risk groups require additional safeguards because they have been judged as vulnerable to coercion or undue influence:

1. Any member of a group that is naturally at-risk (e.g. pregnant women, individuals with diseases such as cancer, asthma, diabetes, cardiac disorders, psychiatric disorders, dyslexia, AIDS, etc).
2. Special vulnerable groups that are covered by federal regulations (e.g. children/minors, prisoners, pregnant women, mentally disabled persons, or economically or educationally disadvantaged persons).

Risk Activities: The following are examples of activities that contain more than minimal risk:

1. Physical
   a. Exercise other than ordinarily encountered in DAILY LIFE by that subject.
   b. Ingestion of any substance or exposure to any potentially hazardous materials.
2. Psychological

a. Any activity (e.g. survey, questionnaire, viewing of stimuli) or experimental conditional that could potentially result in emotional stress. For example, answering questions related to personal experiences such as sexual, physical or child abuse and divorce and/or psychological well-being (e.g. depression, anxiety, suicide) must be considered more than minimal risk. Additionally, research activities that involve exposing subjects to stimuli or experimental conditions that could potentially result in emotional stress must also be considered more than minimal risk. Examples include violent or distressing video images, distressing written materials or activities that could potentially result in feelings of depression, anxiety, or low self-esteem in subjects.
b. Any activity that could potentially result in negative consequences for the subject due to invasion of privacy or breach of confidentiality. When research activities involve collection of personal information (e.g. history of abuse, drug use, opinions, fingerprints) or health-related data (genetic material, blood, tissue) the researcher must consider risks related to invasion of privacy and possible breach of confidentiality. Ways to reduce these risks include collecting data anonymously or developing data collection procedures that make it impossible to link any identifying information (e.g. subject's name) with his/her responses or data.

C. Informed Consent

The process of obtaining informed consent provides information to the subject about the risks and benefits associated with participation in the research study and allows the subject to make an educated decision about whether or not to participate. Informed consent is an on-going process, not a single event that ends with a signature on a page. It must incorporate procedures that do not involve coercion or deception.

Documentation of informed consent is required.

If a research subject is under 18 years of age, both the parent/legal guardian and the school age research subject must sign the Informed Consent Forms. In some cases, the Scientific Review Committee may allow a roster of names, rather than an individually signed form from each participant. For surveys needing to protect the anonymity of participants, the Scientific Review Committee may allow the student researcher to assign numbers to participants. An individual determination will be made for each proposed research study. **Patient Privacy:** HIPAA, the Health Insurance Portability and Accountability Act, as well as the Code of Federal Regulations 45 CFR 46 §46.102 now have **very strict regulations on research on human subjects and privacy rights.** It is essential that any projects involving human subjects comply with these regulations.

The Code of Federal Regulations 45 CFR 46 §46.102 defines:
"Human Subject" means a living individual about whom an investigator (whether professional or student) conducting research obtains

(1) data through intervention or interaction with that individual, or
(2) identifiable private information. In order for the obtaining of private information to constitute research involving human subjects, the identity of the subject must be readily associated with the information.

"Minimal Risk" means that the risks of harm anticipated in the research are not greater, considering probability and magnitude, than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests. Examples of unacceptable risk include:

(1) ingestion or physical contact with any potentially hazardous materials including toxic chemicals, known or suspected pathogens or carcinogens, or exposure to ionizing radiation;
(2) intentionally inducing emotional stress through questioning or invasion of privacy;
(3) physical stress to pregnant women or anyone suffering debilitating physical illness; and
(4) psychological stress to the mentally handicapped or those suffering psychiatric disorders. This list is intended to be illustrative, not exhaustive.

The regulations of the Fair are intended to protect human subjects, both physically and psychologically. The regulations supplement, and do not supplant, relevant State and Federal regulations dealing with such protection.

II. Nonhuman Vertebrate Animals

- Approval by the IRB
- Completion of the Risk Assessment Form

This includes live, nonhuman vertebrates, mammalian embryos or fetuses, bird eggs within three days of hatching, and all other vertebrates (fish, amphibians, reptiles, etc).

Field Studies: These are observational, behavioral, and natural history studies that do not affect an animal's health or well-being.

Animal Experimentation: These are research projects other than field studies and must adhere to the guidelines outlined below.

Students proposing research on nonhuman vertebrate animals first should explore all possible alternatives. These may include cells and tissue cultures, plants (including lower plants such as

yeast or fungi), mathematical or computer models, invertebrates with either no nervous systems or primitive ones (i.e. protozoa, planaria, or insects), or chicken embryos prior to three days of hatching.

If vertebrates are used for research and testing, the student and his/her Teacher/Adult Sponsor are responsible for maintaining the well-being, comfort, and humane treatment of the animals before, during, and after the research. Every effort should be made to reduce the number of animals involved and refine procedures to minimize their distress.

In addition, all research animals must be legally acquired from reputable animal breeders; wild animals may not be used for experiments (see field studies, above, for exception).

Experiments involving small common animals such as mice, rats, hamsters, guinea pigs, gerbils or rabbits are only allowed in an institutional or school setting, and not in a students home (see field studies, above, for exception).

The State of California Education Code §51540:

> In the public elementary and high schools or in public elementary and high school-sponsored activities and classes held elsewhere than on school premises, love vertebrate animals shall not, as part of a scientific experiments or any purpose whatever:
>
> a. be experimentally medicated or drugged in a manner to cause painful reactions or induce painful or lethal pathological conditions,
> b. be injured through any other treatments, including, but not limited to, anesthetization or electric shock. Live animals on the premises of a public elementary or high school shall be housed and cared for in a humane and safe manner. The provisions of this section are not intended to prohibit or constrain vocational instruction in the normal practices of animal husbandry.

III. Pathogenic Agents

- Approval by the IRB
- Completion of the Risk Assessment Form

Any bacterias, viruses, rickettsia, fungi, molds, or parasites collected, isolated and/or cultured from any environment during student research projects should be considered potentially pathogenic (disease causing). **No research will be allowed on unknown bacteria. This includes swabbing surfaces and culturing them to try to find out what germs are present. Research using bacteria will be allowed only on known strains which are non-pathogenic. The research must be under the supervision of a trained teacher or qualified scientist, and Federal regulations must be followed.** For example, the effectiveness of an antiseptic may be tested using a known non-pathogenic strain acquired from a scientific source such as Flinn Scientific or Caroline Biological.

Students working with any microorganisms must always follow standard microbiological practices (for example, National Institute of Health and National Association of Biology Teachers guidelines). **Students must not use ethidium bromide or handle gels stained with ethidium bromide.** All research must be conducted under the direction of a Qualified Scientist in a laboratory setting.

IV. Recombinant DNA

- Approval by the IRB
- Approval by the Scientific Review Committee
- Completion of the Risk Assessment Form

Students working with any microorganisms, whether or not they involve DNA, must always follow standard microbiological practices (for example, National Institute of Health and National Association of Biology Teachers guidelines). **Students must not use ethidium bromide or handle gels stained with ethidium bromide.**

Recombinant DNA studies may be conducted on bacterium *Escherichia*, bacterium *Bacillus subtilus*, and yeast *Saccharomyces cerevisiae* in non-federally registered laboratories, including school laboratories, under the direct supervision of a trained teacher following federal regulations. Students wishing to study non-exempt forms must work only in a federally registered research institution under the direct supervision of a Qualified Scientist.

V. Human and Animal Tissue

- Approval by the IRB
- Approval by the Scientific Review Committee
- Completion of the Risk Assessment Form

This includes all human or vertebrate animal tissue and body fluids (for example, saliva and urine).

Some tissue types do not require prior SRC review and approval:

- Established cell and tissue cultures (e.g. those obtained from the American Type Culture Collection with culture source and number identified)
- USDA approved meat or meat by-products from food stores, restaurants or packing houses.

Although students using their own blood do not need HIV or hepatitis certifications, students wishing to conduct research on human blood, blood products or other bodily fluids not their own may do so only under the following conditions:

a) tissue fluids are documented to be free of HIV and hepatitis B and C before the student receives them, or

b) tissues are handled in accordance with standards and guidelines set forth in OSHA, 29CFR, Sub-part Z, 1910.1030 – *Blood Borne Pathogens*.

Regulations for projects using tissue samples:

Live tissue samples must be taken either from a continuously maintained tissue culture line already available to institutional researchers, or from animals already being used in an on-going institutional research project. **Students may not be involved in the direct acquisition of these samples from living human or vertebrate animals.**

VI. Controlled Substances

- Approval by the IRB
- Completion of the Risk Assessment Form

Projects using controlled substances are not allowed, but surveys of adult users of such substances are permitted. Drug Enforcement Administration classified substances, prescription drugs, alcohol, and tobacco must be acquired and used according to existing local, state, and federal laws. Students under 21 years of age are prohibited from purchasing and/or handling smokeless powder or black powder.

VII. Hazardous Substances

- Approval by the IRB
- Completion of the Risk Assessment Form

Some examples of hazardous substances are hydrochloric acid, household bleach and chemicals. Use of dry ice is prohibited.

VIII. Firearms

- Approval by the IRB
- Hunter safety certificate
- Student must be age 12 or older
- Completion of the Risk Assessment Form

INFORMATION FOR RESTRICTED PROJECTS

If you have ever puzzled over the difference between a Designated Supervisor and a Qualified Scientist, this clarification may be helpful:

In general terms, the Designated Supervisor is the person who promises to provide additional supervision in the course of a project. That can include anything necessary to ensure a student's safety. Examples might be overseeing a student who is using bleach, lighting a match or climbing a ladder. If a student is surveying strangers, the Designated Supervisor would remain nearby in order to guarantee that the student is in a safe environment.

A project which requires a Qualified Scientist is one which needs a higher level of scientific oversight. Examples might include supervision for a student handling chemicals or medications. Projects using animals would need a scientist willing to oversee the humane treatment of those animals.

The County's Scientific Review Committee will evaluate the risks associated with each project and determine if there is a need for either a Designated Supervisor or a Qualified Scientist. The decisions of the Committee are final.

Application Checklist and Calendar

Form	Who	Due
Risk Assessment Form	Projects with restrictions requiring approvals	January 16, 2026
Student Entry Form	ALL participants	January 16, 2026
Entry Fee ($15.00) (payable to Kern County Science Foundation)	ALL participants	January 16, 2026

Application Procedure Summary

1. Register through the online registration system by January 16, 2026.
2. Complete Student Entry Form and turn it in with your $15.00 per person fee by January 16, 2026. Turn it in to a teacher/adult sponsor or directly to the Science Fair.
3. Any projects submitted after January 16, 2026 may be admitted for display but will not be eligible for competition or prizes.

Filling Out the Student Entry Form

General Considerations

Go to https://ca-kern.zfairs.com

- To register click on **Create Account** to the right, then select **Student**.
- To update your profile, click on your name (above right).
- For technical assistance, go to https://wiki.zfairs.com/index.php?title=Students
- Science Fair officials will review all Project Abstracts and assign projects to the appropriate categories.
- Only students in grades 6-12 may compete as groups (2-3 students).
- Only students in grades 6-12 will have access to electrical outlets.
- Only students in grades 9-12 will be considered for ISEF qualification.

How to Write a Science Fair Abstract*

What is the purpose of the abstract?

The abstract should be a brief, yet comprehensive synopsis of the project. It should seek to highlight the research question(s), experimental procedures, data, and conclusions in a way that is concise and easy to understand. It will be reviewed by judges to determine whether the project stands out within its category or qualifies for special awards. The general public and other visitors read the abstract for a quick overview of the research design and findings.

Please bring five (5) copies of your abstract to the Kern County Regional Science Fair so that all judges may review it before judging begins.

Rules for completion:

The abstract should be 250 words or less. Do not discuss specific aspects of the research in great detail, including experimental procedures and statistical methods. Any information that is unnecessary to include in a brief explanation should be saved for the written research paper or the project exhibit board.

If the project is a continuation from a previous year, the abstract should summarize the current year's work only. If mention of supporting research from previous year(s) is necessary, it must be minimal.

If the abstract text includes special characters, such as mathematical symbols, which won't be translated electronically, please spell out the symbol.

Do not include acknowledgements in the abstract. This includes any references to mentors, institutional facilities, and awards or patents received.

All abstracts must be submitted on the online system.

What should the abstract include?

- Title
- Student's Name (or names, if a team project)
- School Name
- School District

Purpose

- An introductory statement providing background, namely the reason, for investigating the project topic.

- A statement of the problem the research is looking to solve or the questions being tested

Procedure

- A brief overview of how the investigation was conducted, highlighting key points, and including methods and resources used.
- Do not provide details about materials used in the research unless they greatly influenced the procedure or were needed to conduct the investigation.
- An abstract should only include procedures done by the student. Do not include work done by a mentor (such as surgical procedures) or work done prior to the Finalist's involvement.

Observations/Data/Results

- This section should provide key results that lead directly to the conclusions you have drawn.
- Do not include unnecessary data or observations about the results, nor tables, charts, graphs or other images. While these belong in the research paper or the project board, they do not belong in the formal abstract.
- Unless significant, do not include any of the experimental design difficulties encountered in research.

Conclusions

- This section should be confined to a short summary in 1-2 sentences. It is a reflection on the research process and results, which may include conclusive ideas, important applications, and implications of the research.
- The abstract does not include a bibliography.

Best practices:

Remember–Revision is Key

- Make sure that the abstract includes all parts outlined in this guide
- Omit unnecessary details and discussions
- Use the past tense in descriptions
- Write in short, but complete sentences
- Avoid extra jargon and any slang

- Use concise wording throughout, especially when expressing concepts and processes with scientific language
- Check for correct spelling, grammar, and punctuation
- Ask for writing help from an English teacher or librarian. Writing an abstract is an exercise in using language effectively to convey scientific ideas and procedures.
- It never hurts to have an extra pair of eyes glance it over

Sample Abstract

Snot Science: How far does a sneeze travel?
Chelsy Lancaster
Ridgeview High School
Kern High School District

ABSTRACT

Viruses, such as those that cause colds and influenza, spread via droplets of mucus that are produced when an infected person sneezes or coughs. Using thick and thin mucus and a model sneeze, we tested the hypothesis that thin mucus will travel farther than thick mucus.

Thin and thick mucus were represented by 1-milliliter volumes of colored water or a mixture of corn syrup and gelatin, respectively. Fluid was squirted from a plastic dropper with enough force to model a sneeze. Each sample was analyzed for maximum distance traveled and distribution of droplets. Data was analyzed using a two-tailed t test.

Compared to thick mucus (mean distance of 110.8 cm, SD 103.7 cm, n=26/group), thin mucus squirted a greater mean distance (302.4 cm, SD 45.06 cm, n=26/group, $p<0.0001$, Cohen's d 2.395). Thick mucus traveled a maximum of 310 cm. Thin mucus traveled a maximum of 400 cm. Thick mucus also formed fewer visible droplets, and droplets concentrated closer to the origin of the "sneeze."

This study showed that thin mucus travels farther than thin mucus in the plastic dropper sneeze model. Thin mucus traveled a maximum of 400 cm, suggesting a potential spread of virus-containing particles of up to 4 meters in our tests. Further experiments will clarify differences in viscosity between thick and thin mucus and potential differences in droplet size.

*Adapted from Society For Science, "How To Write An Abstract." 2025.
https://www.societyforscience.org/isef/how-to-write-an-isef-abstract/

At The Science Fair:

A Checklist for Students

DO bring:

- Chairs for students
- Plastic water bottles, to be stored under the displays
- Lunch or lunch money
- Something to keep students busy during judging intervals
- Log books and 5 copies of abstract
- Contact phone number for adult chaperone
- Extension cord if electricity has been requested

DO NOT bring:

- Glass
- Liquids
- Live plants, dirt
- Display photos depicting anyone other than student
- Anything the student cannot afford to lose

NOTICE OF NEWS MEDIA VISIT
(Photography/Filming/Interview)

1. Local news media representatives may wish to (either on campus or at the event) interview, photograph, and/or film students.
2. So long as news media representatives conduct business in a responsible manner, school officials may not control content, limit access to pupils, restrain a pupil's right to speak freely with news media representatives, or restrict the use of information and images acquired by news media representatives.
3. If on campus, news media representatives will be accompanied by school officials for the sole purpose of minimizing disruption to the educational environment. If off campus, news media representatives will not be accompanied by school officials.
4. Although school officials may not limit access to pupils or restrain a pupil's right to speak freely with news media representatives, parents may direct their child not to approach news media representatives.
5. Upon request by news media representatives, school officials may provide directory information, including but not limited to the name of a pupil, school of attendance, grade level, honors, and activities, unless the pupil's parent/guardian has submitted a written request that this information not be disclosed.
6. School officials will not release information that is private of confidential as required by law, board policy, or administrative regulation. No other access to student records or personally identifiable student information will be provided without written parent/guardian permission.
7. If you have particular concerns in light of this notification, please call Michelle Roy at (661) 636-4640.

Judging Criteria

I. Research Question (10 pts)

___ clear and focused purpose

___ identifies contribution to field of study

___ testable using scientific methods

II. Design and Methodology (15 pts)

___ well designed plan and data collection methods

___ variables and controls defined, appropriate and complete

III. Execution: Data Collection, Analysis and Interpretation (20 pts)

___ systematic data collection and analysis

___ reproducibility of results

___ appropriate application of mathematical and statistical methods

___ sufficient data collected to support interpretation and conclusions

IV. Creativity & Potential Impact (20 pts)

___ project demonstrates significant creativity in one or more of the above criteria

___ project has impact or potential impact in its field and/or in technology, economy, environment or society

V. Presentation (35 pts)

a. Display Board/Poster (10 pts)

___ logical organization of material

___ clarity of graphics and legends

___ supporting documentation displayed

b. Interview (25 pts)

___ clear, concise, thoughtful responses to questions

___ understanding of basic science relevant to project

___ understanding interpretation and limitations of results and conclusions

___ degree of independence in conducting project

___ recognition of potential impact in science, society and/or economics

___ quality of ideas for further research