

Arkansas Valley Regional Science and Engineering Fair Resource Booklet

Eligible Schools and Students:

All schools; private, public, and home schooled, in Huerfano, Las Animas, Otero, Bent and Crowley Counties are eligible to participate at the Arkansas Valley Regional Science and Engineering Fair.



21th Annual Arkansas Valley Regional Science & Engineering Fair

Thursday, 23rd and Friday, February 24th

Otero Junior College

DEADLINES

Monday, February 13: Last day to MAIL-IN your ISEF/CSEF paperwork.

Wednesday, February 15: Last day to REGISTER ON-LINE

Friday, February 17: Last day to send CSEF/ ISEF paperwork as e-mail **pdf** attachment

Friday, February 17: Last day to HAND DELIVER your ISEF paperwor



October 20, 2016

To: Local Science Fair Director/Parents/Adult Sponsor/Educators
Re: 21th Arkansas Valley Regional Science and Engineering Fair
From: Warren McClure, Co-Director

Dear Local Fair Director/Parent/Adult Sponsor/Educator:

This year's Regional Science Fair will be held the week of February 23rd & 24th, 2017 at the OJC student center. To register for AVRSEF fair two things must be completed by the student.

Step 1: On-line registration, which begins on December 1st and the deadline is Wednesday February 15, 2017.

Step 2: Signed ISEF Paperwork no later than Friday, February 17th.

Below is a synopsis of the two days, but please see the schedule on page 17.

- Wednesday, February 22nd, Registration and safety and display 3:00 pm – 6pm.
- Thursday, February 23rd
 - 2:00 pm- 5:00 pm K – 5th Grade Student Judging
 - 6:00 pm – 8:00 pm 6th -12th Grade Student Judging (only students and judges are allowed in the exhibit hall -- students formal attire is required).
- Friday, February 24th 3:00 pm Awards Ceremony
- School Sponsors/parents or adult in charge are required to be present on campus throughout Registration, Set-up, and Judging.

I have included a copy of this year's schedule, instructions for set up of projects, a summary of deadlines, and a new guidelines handout for projects that require special paperwork and signatures. Participation entry fee per students will be **\$20.00**. It is preferable to pay the participation fee on February 22nd the day of project registration and judging. There is **a limit of 15 K – 5th grade projects** from anyone school district, but no limit of 6th – 12th grade. This information has been updated on our web site:

www.ojc.edu/about/newsevents/ojcevents/sciencefair/

IMPORTANT: APPROVAL SIGNATURES BY SPONSORS, PARENTS, STUDENT SCIENTIST(S), AND PROFESSIONAL SUPERVISOR(S) MUST TO BE OBTAINED PRIOR TO THE DATE OF DATA COLLECTION AND/OR EXPERIMENTATION. I hope that you find the updated web page helpful and that the information enclosed will make for an easier transition to CSEF and Intel ISEF for our students. I look forward to working with you this up-coming February and seeing this year's projects. For any questions or problems regarding science project idea, registration, and/or rules do not hesitate to contact Wayne Beadles (719 384-6836) or Joel Gray (719-384-6892) especially if your school district does not have an Internal Review Board and/or a Scientific Review Committee (SRC) in place.

K- 8th Graders: The CSEF Forms have been updated and are easier to use this link

http://www.csef.colostate.edu/Guidelines/Requirements_for_All_Projects.pdf

Thank you for supporting our students and participating in this year's regional fair.

Warren McClure
Co-Director, Arkansas Valley Regional Science Fair
719 384-6803 (office)
warren.mcclure@ojc.edu

Dol Khanal
Co-Director, Arkansas Valley Regional Science Fair
719 384-6936 (office)
dol.khanal@ojc.edu

Table of Contents:

Paperwork required for <u>All Projects</u>	Page 4
AVRSEF Submissions and Deadlines.....	Page 5
Student responsibilities at AVRSEF – PLEASE READ!!.....	Page 6
Code of Conduct.....	Page 7
AVRSEF Display & Safety Guidelines.....	Page 8
AVRSEF Category Descriptions.....	Page 9
Project Review.....	Page 10
Regulations Regarding Studies Involving Vertebrate Animals.....	Page 11
Regulations Regarding Studies Involving Human Subjects.....	Page 12
Projects that require special approval signatures <u>prior to experimentation</u>	Page 13 – 14
Sample Works Cited.....	Page 15
Internet Navigation Tips.....	Page 16
Important Links and Information for Adult Sponsors.....	Page 17
21 st AVRSEF Science Fair 2017 Schedule.....	Page 18
Final Comments and Common Mistakes.....	Page 19
Forms 1, 1A, Research Plan, 1B, Form 3.....	Pages 20 - 26

Contacts for the Regional Science Fair:

Warren McClure AVRSF, Co-Director Biology 719.384.6803 warren.mcclure@ojc.edu	Joel Gray, PhD. AVRSF, SRC Chairman Chemistry 719.384.6892 Joel.gray@ojc.edu	Dol Khanal AVRSF, Co-Director Mathematics 719.384.6936 Dol.khanal@ojc.edu	Wayne Beadles Former Director Mathematics 719.384.6836 Wayne.beadles@ojc.edu
Shawn Japhet Math Center Mathematics 719.384.6862 Shawn.japhet@ojc.edu	Cheryl Reeves Depart. Chair Math/Science Phone: 719.384.6984 Email: Cheryl.Reeves@ojc.edu	Mark Korbitz Physics/Astronomy 719.384.6975 mark.korbitz@ojc.edu	Brenda Mueller Psychology 719.384.6827 Brenda.Mueller@ojc.edu
Brooke Matthew Agricultural Science Phone: 719.384.6964 Brooke.Matthew@ojc.edu	Martina Murray Agricultural Science Phone: 719.384.6930 Martina.Murray@ojc.edu	Lisa Gallegos Human Anatomy 719.384.6961 Lisa.gallegos@ojc.edu	Debbie Phillips Otero Junior College 719.384.6863 debbie.phillips@ojc.edu
Susan Goettel STEM Activity Director Phone: 719.384.6868 susan.goettel@ojc.edu	Kristi Tschetter, Phd Faculty Bio Tech Phone: 719.384.6853 Email: Kristi.Tschetter@ojc.edu	Angela Bamber STEM Director Phone: 719.384.6817 angela.bamber@ojc.edu	Richard Gambino Faculty - Mathematics 719.384.6845 richard.gambino@ojc.edu

Paperwork Required for All Projects entering the Arkansas Valley Regional Science and Engineering Fair

Important Note: These forms should be filled out prior to any experimentation K – 8 may use the new CSEF forms but High School must use ISEF Forms.

- Form 1 (attached at back) requires Adult Sponsor signature prior to experimentation.
- Form 1A (attached at back) requires ACTUAL Start and End dates. This is the dates the student actually BEGAN EXPERIMENTATION or DATA COLLECTION. The date when the student begins research plan and library/ internet research on his/her topic is NOT the ACTUAL start date
- Research Plan (attached at back) is a plan for the future of what the student intends to do so it should be written in the future tense. This should include a minimum of five references other than Wikipedia.
- Form 1B (attached at back) Approval Form is required for each student, including all team members.
- Form 3 (Attached at back) Approval Form of any risk is required for each student, including all team members

Other forms can be found at the following website:

High School: http://www.csef.colostate.edu/ISEF_Paperwork_Guidelines.htm
K- 8th grade: http://www.csef.colostate.edu/ISEF_Paperwork_Guidelines.htm

For example forms may or may not be required for a particular project:

Form 1C is required if the project needs to be performed at a Regulated Research Institution.

Form 2 is required if a Qualified Scientist is needed to either review the research plan or act as designated supervisor for the project.

Form 3 is needed if the project possess any Risks to the student.

AVRSEF Submissions

All projects must be accompanied by ISEF paperwork. There are four ways for you to get this paperwork to me (in order of preference).

1. Scan your paperwork and save as **pdf** file, then e-mail the pdf file to: wayne.beadles@ojc.edu

Subject headline should include students name and an indication that this is their science fair paperwork:

example: Joe Smith science fair paperwork attached

2. Mail in your paperwork to:

Wayne Beadles
AVRSEF
Otero Junior College
1802 Colorado Avenue
La Junta, CO 81050

3. Hand deliver the paperwork:

Bring the paperwork in person to

- a. Wayne Beadles - Otero Junior College, McBride Building Room #108
- b. Dr. Joel Gray- Otero Junior College, Wheeler Hall Room #119
- c. Dol Khanal – Otero Junior College, McBride Building Room #129

4. Fax your paperwork.

(This is the least desirable format for Faxes are usually hard to read and often times transmissions are incomplete due to miss-fed pages etcetera.)

Fax to: Mr. Wayne Beadles
719-384-6923 (please only in emergencies)

DEADLINES

Monday, February 13: Last day to MAIL-IN your ISEF paperwork. All mailed ISEF paperwork must have a POSTAGE DATE of no later than February 13.

Wednesday, February 15: Last day to REGISTER ON-LINE

Friday, February 17: Last day to FAX ISEF paperwork Or send as e-mail **pdf** attachment

Friday, February 17: Last day to HAND DELIVER your ISEF paperwork

Student responsibilities at AVRSEF – PLEASE READ!!

Name Tags: Be sure to wear your name tag at all times during the CSEF, especially during judging, during the Awards Ceremony, while on tours, and during the public viewing on Saturday.

Sign up for Science Lab Workshops on Saturday: Students may sign up for Science Lab Workshops early. Sign-up sheets will be available at registration and during judging. Make sure you get the workshop you want on Saturday.

Official Photos: During Judging official photos will be taken. Make sure you get your picture taken before you leave judging.

Judging: You **must** be at your project from for Judging Interviews. Students are expected to stay at their project the entire judging time.

Display & Safety Inspections: The Display & Safety Team will be inspecting all projects Thursday evening after judging and may find items that were missed during the initial inspection that should not be present during public viewing times. A note will be left at your project giving you directions on where to pick up any confiscated items.

Research Notebooks: **DO NOT** remove your research notebook from your display for any reason when leaving after judging. The Scientific Review Committee will be conducting final reviews of forms (especially in the Senior Division for those continuing on to the Intel ISEF) and signing Form 1B.

Equipment: Any sensitive equipment (computers, etc.) you may have used during judging should **NOT** be left at projects on Saturday during the public viewing time. You should take this equipment with you when you leave after judging. You can bring it back on Saturday if you want to utilize the equipment when you are talking with visitors.

Poster Art Contest: You are encouraged to compete in the Poster Art Contest. During Judging students will have the opportunity to color a poster dealing with the science fair theme. Poster Art chosen will be used to publicize the next years science fair.

Awards Ceremony: The Awards Ceremony will be held at the Ed Stafford Theater in the Humanities Center and will begin promptly at 5:00 p.m. on Thursday. Students are strongly encouraged to attend in receive their awards.

Sponsors/Parents: At least one parent and/or sponsors are required to stay on Campus during judging. Once students are released from interviews parents/sponsors are responsible for the students.

Code of Conduct

Any Finalist guilty of any of the following will fail to qualify or will forfeit all awards received:

1. Respect and maintenance of Otero Junior College is required. Tampering or removing signage or other AVRSEF materials is strictly prohibited. This includes tampering with other projects. Those found in violation will be disqualified.
2. Appropriate attire is expected. Please plan to wear business attire at all times during the fair.
3. Attendance is mandatory at the public exhibition of projects on Saturday and at award ceremonies.
4. During judging the following items are prohibited:
 - Food, drinks, snacks. Water Bottles are allowed.
5. During judging students must be by their project at all times or they will be disqualified. Leaving judging area during interviews will result in disqualification.
6. Restroom break is allowed during judging.
7. Respect of all science fair volunteers and judges.
8. The use of tobacco products, alcoholic beverages and/or drugs is prohibited.
9. School Sponsors/parents or adult in charge are required to be present on campus throughout Registration, Set-up, and Judging.

AVRSEF Display & Safety Guidelines

The Display & Safety Committee will be reviewing ALL projects after they have been set up on Thursday. Please review this list of restrictions, and plan your exhibit accordingly. This is required by AVRSEF for the safety of other students and the public.

<p>Physical Exhibit:</p> <ol style="list-style-type: none"> Overall height (including table) does not exceed 9 feet Width does not exceed 4 feet; Depth does not exceed 2 1/2 feet; and Exhibit is NOT attached to the table or to the wall. 	<p>Intel ISEF Forms:</p> <p>In the Research Notebook:</p> <ol style="list-style-type: none"> CSEF Abstract form; Checklist for Adult Sponsor (1); Student Checklist (1A); Research Plan; Approval Form (1B); and All other pertinent Intel ISEF forms follow.
<p>Items Not Allowed at Project Display</p> <ol style="list-style-type: none"> Living organisms, including plants; Soil, sand, rock, and/or waste samples even if permanently encased in a slab of acrylic; Taxidermy specimens or parts; Preserved vertebrate or invertebrate animals; Human or animal food; Human or animal parts or body fluids; Plant materials (living, dead or preserved) that are in their raw, unprocessed or non-manufactured state (Exception: manufactured construction materials used in building the project or display); All chemicals including water (projects may NOT use water in any form in a demonstration); All hazardous substances or devices (e.g., poisons, drugs, firearms, weapons, ammunition, reloading devices, class III and class IV lasers, etc.); Dry ice or other sublimating solids; Sharp items (e.g., syringes, needles, pipettes, knives, etc.); Flames or highly flammable materials; Batteries with open-top cells; Awards, medals, business cards, flags, endorsements and/or acknowledgements (graphic or written) unless the item(s) are an integral part of the project; Active Internet or e-mail connections as part of displaying or operating the project at the CSEF; Prior years' written material or visual depictions on the vertical display board (Exception: the project title may mention which year the project is); Glass or glass objects unless deemed by the Display & Safety Committee to be an integral and necessary part of the project (Exception: glass that is part of a commercial product such as a computer screen); and Any apparatus deemed unsafe by the Scientific Review Committee, the Display & Safety Committee or CSEF (e.g. large vacuum tubes or dangerous ray-generating devices, empty tanks that previously contained combustible liquids or gases, pressurized tanks, etc.). 	<p>Items Allowed at Project Display BUT with the Restrictions Indicated</p> <ol style="list-style-type: none"> Any apparatus with unshielded belts, pulleys, chains, or moving parts with tension or pinch points if for display only and not operated; Finalist's information such as postal, web, and email addresses, telephone numbers and fax numbers are allowed, but discouraged by CSEF; Any apparatus producing temperatures that will cause physical burns, if adequately insulated; and <p>Photography Rules</p> <p>Photographs and/or visual depictions ARE allowed IF:</p> <ol style="list-style-type: none"> They do not depict vertebrate animals in surgical techniques, dissections, necropsies, or other lab procedures. These types of photos may be put into the research notebook. They are not deemed offensive or inappropriate by the SRC, the Display & Safety Committee, or CSEF. Credit lines of their origins ("Photograph taken by . . . " or "Image taken from . . .") are attached to the display board near the appropriate image or photo. If all photos are from the same source, one credit prominently displayed is sufficient. They are from the Internet, magazines, newspapers, journal, etc. and credit lines are attached to the display board near the appropriate image or photo. If all photographs/images are from the same source, one credit prominently displayed is sufficient. They are of the Finalist. They are of human subjects for which signed consent forms are at the project.

AVRSEF Category Descriptions

Behavioral & Social Sciences: The science or study of the thought processes and behavior of humans and other animals in their interactions with the environment, studied through observational and experimental methods. For example: clinical & developmental psychology, cognitive psychology, physiological psychology, sociology, etc.

Botany: The study of plant life. For example: horticulture, agriculture/agronomy, plant development, plant ecology, plant genetics, photosynthesis, plant physiology (molecular, cellular, & organismal), plant systematics, plant evolution, biochemistry related to plants, etc.

Chemistry: The study of the composition, structure, properties and reactions of matter, especially of atomic and molecular systems. For example: analytical chemistry, inorganic chemistry, organic chemistry, physical chemistry, general chemistry, general biochemistry, biochemical metabolism, structural biochemistry, etc.

Earth & Space Sciences: The study of sciences related to the Earth and anything in the universe beyond the Earth. For example – climatology, weather, geochemistry, geology, petrology, mineralogy, paleontology, geophysics, landforms, tectonics, theoretical or computational astronomy, observational astronomy, cosmology, etc.

Energy & Transportation: The study of renewable energy sources, energy efficiency, clean transport and alternative fuels. For example: aerodynamics, alternative fuels, fossil fuel energy, vehicle development, solar, renewable energy, etc.

Engineering: The application of scientific and mathematical principles to practical ends such as the design, manufacture, and operation of efficient and economical structures, processes and systems. For example: bioengineering, civil engineering, construction engineering, chemical engineering, industrial engineering and processing, material science, electrical engineering, computer engineering, mechanical engineering, aerospace & aeronautical engineering, thermodynamics, robotics, etc.

Environmental Sciences: The study of pollution sources and their control, ecology, and conservation. For example: air pollution & quality, soil contamination & quality, water pollution & quality, bioremediation, ecosystems management, environmental engineering, land resource management, forestry, recycling, waste management, etc.

Mathematics & Computer Sciences: The study of the measurement, properties, and relationships of quantities and sets, using numbers and symbols. The deductive study of numbers, geometry and various abstract constructs or structures. The study of information processes, the structures and procedures that represent processes and their implementation in information processing systems. For example: algebra, analysis, applied mathematics, geometry, probability & statistics, algorithms, databases, artificial intelligence, networking & communications, computational science, computer graphics, software engineering, programming languages, computer systems, operating systems, etc.

Medicine & Health: The science of diagnosing, treating or preventing disease and other damage to the body or mind. For example: dentistry, pathology, nutrition, allergies, blood, protein & food chemistry, epidemiology, human genetics, molecular biology of diseases, human physiology & pathophysiology, biochemistry related to humans, human cellular & molecular biology, immunology, etc.

Microbiology: The study of micro-organisms and antibiotic substances. For example: antibiotics, antimicrobials, bacteriology, microbial genetics, virology, etc.

Physics: The study of matter and energy and the interactions between the two. For example: atoms, molecules, solids, biological physics, instrumentation & electronics, magnetism & electromagnetism, nuclear & particle physics, optics, lasers, masers, theoretical physics, etc.

Zoology: The study of animals (vertebrates and invertebrates). For example : animal development, animal ecology, animal genetics, animal husbandry, animal pathology, animal physiology, animal systematics, biochemistry related to animals, animal cellular & molecular biology, etc.

Project Review

In Colorado, there are three to five levels of review that a student's project may need to pass through for competition purposes. If any of the review groups feel that there was a serious breach of ethical or safety protocols when the student did their project, they can deem the project has failed to qualify and not allow the Student Researcher(s) to compete – even if the prior review board approved the project.

Scientific Review Committee (OJC can be this for your project)

A Scientific Review Committee (SRC) is a group of qualified individuals that is responsible for evaluating project procedures to make sure that all safety and legal requirements will be met and that the appropriate forms have been completed. The committee is composed of at least 3 people: a biomedical scientist with an earned doctoral degree, an educator and one other member.

If a student's project involves vertebrate animals and/or potentially hazardous biological agents (microorganisms, rDNA, tissue), then the experimental procedures must be approved by the local SRC BEFORE a Student Researcher may begin working on the experimental portion of their project.

Institutional Review Board

An Institutional Review Board (IRB) is a group of individuals that is responsible for evaluating project procedures involving human subjects to make sure that all safety and legal and confidentiality requirements will be met and that the appropriate forms have been completed. The committee is composed of at least 3 people: an educator, a school administrator, and a psychologist, doctor (MD) or nurse (RN).

Regulated Research Institution Review Board

If a Student Researcher is working in a laboratory at a university or other research institution, projects involving vertebrates, humans, tissue, rDNA and microorganisms must be reviewed and approved by that institution's review board (not the Qualified Scientist) BEFORE a Student Researcher may begin work on the experimental portion of their project. Some institution may not review all of these types of projects – if they don't, then this must be certified by the Qualified Scientist and approved by the local/school SRC on Form 6A.

Regional SRC

This group of people will review the student's paperwork for compliance with the rules set forth here and paperwork completion.

State SRC

This group of people will review the paperwork for the students who have been chosen to compete at the state level for compliance with the rules set forth here and paperwork completion.

In order to eliminate conflict of interest, the Adult Sponsor, parents, Qualified Scientist(s) and Designated Supervisor(s) MUST NOT serve on any SRC or IRB reviewing that project.

Inquiries regarding specific experimental procedures or questions regarding the rules can be directed to either the CSEF SRC or the Intel ISEF SRC at:

Intel ISEF SRC
SRC@societyforscience.org
Dr. Chris Miller, Chair

CSEF SRC
csef@colostate.edu
Dr. Doug Everett, Chair

'When in doubt, fill it out!'

Regulations Regarding Studies Involving Vertebrate Animals

The regulations regarding studies involving vertebrate animals changed in 2013.

Students **must** include a discussion on possible alternatives to the use of vertebrate animals to achieve the studies objectives. This discussion **must** appear in the research plan and include three things:

1. An explanation on how the study may be performed by replacing the vertebrate animals with invertebrates, tissue/cell cultures, or computer simulations.
2. An explanation on how to reduce the number of animals without compromising the statistical integrity of the study.
3. An explanation on how to minimize or reduce any pain or distress the animal may endure during the study.

Remember, most vertebrate animal studies will require supervision by a practicing DVM and approval prior to date of experimentation and/or data collection. Also remember that animals in a vertebrate animal studies cannot lose more than 15% of their weight and documentation of animals weight throughout the study must be provided. Finally, no vertebrate animal deaths due to the experimental procedures are permitted in any group or subgroup. Such a project will fail to qualify for competition.

- a. Studies that are designed or anticipated to cause vertebrate animal death are prohibited.
- b. Any death that occurs must be investigated by a veterinarian, the Qualified Scientist or the Designated Supervisor who is qualified to determine the cause of death. The project must be suspended until such investigation occurs and the results must be documented in writing.
- c. If death was the result of the experimental procedure, the study must be terminated, and the study will not qualify for competition.

Please, refer to the *Paperwork Required for all Projects* and the *Projects that Require Special Approval Signatures Prior to Experimentation* handouts for information regarding paperwork required for projects involving vertebrate animals.

Regulations Regarding Studies Involving Human Subjects

1. These types of studies require approval **before any data collection (experiments) are done** by your local Institutional Review Board (IRB). Your local school district should already have an IRB if not then please refer to the *How to set up a Internal Review Board IRB at the Local Level* handout. If your school is unable to set up an IRB we can evaluate your students' project here by calling Dr.Gray or I, **prior to beginning of experimentation date**.

2. If you need us to evaluate your students' project because your school is unable to set-up a local IRB, then you must submit the following documentation:

- a. Study objectives
- b. Study procedures
- c. Number of human subjects
- d. An example of the Consent Forms from both subjects, and if under age parents (this year the consent form has been removed from **Form 4** A separate Consent form needs to be filled out. It is recommended that you use the Consent Form provided in the ISEF Forms page 35(See the *Navigation Tips* handout to find electronic copy of ISEF Forms)

3. Submit the material above to:

Dr. Joel Gray
Chair AVRSF SRC
Otero Junior College
1802 Colorado Avenue
La Junta, CO, 81050

4. If the project involves no interaction between the researcher and the human subjects **and**, the researcher does not manipulate the environment in any way, **and** the researcher does not record **any** personally identifiable data then the study does not require IRB review.

5. Please, refer to the *Paperwork Required for all Projects* and the *Projects that Require Special Approval Signatures Prior to Experimentation* handouts for information regarding paperwork required for projects involving human subjects.

Projects that require special approval signatures prior to experimentation:

1. Projects involving human subjects: (either physical testing and/or psychological testing)
 - These projects require IRB review and three signatures in **Form 4**. Signatures from: 1) medical professional; 2) school administrator; and 3) a teacher or school educator (these are usually the IRB members signatures). Note the persons signing this form **MAY NOT** be the adult sponsor, designated supervisor, qualified scientist overseeing the project, or a relative.
 - A **Consent Form** is needed and should be kept in record by the adult sponsor or designated supervisor for those projects that involve human test subjects. A sample form of informed consent is included on page 35 of the rule book (see rules and guidelines follow the web link on the *Important Links* handout)
2. Projects involving vertebrate animals:

- These types of studies must be approved by *Scientific Review Committee* (SRC) prior to experimentation. Please contact us (Dr. Joel Gray) for approval. We will review the projects proposed study and determine if it requires a Designated Supervisor, DVM, and/or Qualified Scientist, **Form 2**.
 - After SRC approval student will need to obtain the necessary signatures as determined by SRC on **Form 5A**.
 - It is best to communicate via e-mail so as to have documentation of SRC approval date.
 - Some vertebrate projects may require to be performed only in a Regulated Research Institution, SRC review will determine if this is necessary. If so, then **Form 5B** will also need to be submitted.
3. Projects involving human or animal tissue:
- Human or animal tissue includes: 1) fresh or frozen samples obtained from the grocery store; 2) fresh or frozen samples obtained from a laboratory; 3) primary cell cultures; 4) blood and blood products; 5) body fluids.
 - In addition to proper human or animal forms these projects require the completion of **Form 6A** and **Form 6B**.
 - The Qualified Scientist or Designated Supervisor must sign **Form 6B** prior to experimentation date.
4. Projects involving the handling of Potential Biological hazards:
- For definitions on what constitutes a Biological Hazard please follow the web link on the *Important Links* handout for rules and guidelines and refer to page 13-16 of the ISEF rules and guidelines handbook.
 - Studies involving the decomposition of vertebrate organisms (such as in forensic projects) require a Risk Assessment Form 3.
 - Human and other primate established cell lines and tissue cultures are to be treated as potentially hazardous biological agents. Plant and non-primate established cell lines and tissue culture collections do not need to be treated as potentially hazardous biological agents.
 - If the study is performed in a Regulated Research Institution under the supervision of a Qualified Scientist then it may be signed by SRC at any time.
 - However, if the project is not to be performed at a Regulated Research Institution then it must be approved by SRC PRIOR to EXPERIMENTATION.
5. Risk Assessment **Form 3**:
- Most projects will present some kind of risk to the student that must be assessed, whether it be the use of power tools or the use of chemicals in the chemistry laboratory. This form ensures that an Adult Sponsor, Designated Supervisor, and/or Qualified Scientist has talked about the potential risks to the student inherent in his/her project and has taken the proper precautions to ensure student safety.
 - This form must be completed prior to experimentation. Please review the Risk Assessment Guide Link (follow the web link on the *Important Links* handout) to determine if your student's project will require completion of **Form 3**. You may also consult with your local IRB or with us if you are not sure if a student's project carries any risk that would require this form to be completed.

Sample Works Cited

The following are acceptable formats for different types of references that might be used in researching a science fair project topic.

Books

Format:

Author's Last Name, First Initial. (Year Published). *Book Title*. City of Publication: Publishing Company.

Examples:

Sheril, R. D. (1956). *The terrifying future: Contemplating color television*. San Diego: Halstead.

Smith, J., & Peter, Q. (1992). *Hariboall: An intensive peek behind the surface of an enigma*. Hamilton, ON: McMaster University Press.

Article in an Edited Book

Format:

Author's Last Name, First Initial. (Year Published). Article Title. In Editor's Name (Ed.), *Book Title* (Page Number(s)). City of Publication: Publishing Company.

Example:

McDonalds, A. (1993). Practical methods for the apprehension and sustained containment of supernatural entities. In G. L. Yeager (Ed.), *Paranormal and occult studies: Case studies in application* (pp. 42-64). London: Other World Books.

Journal Articles

Format:

Author's Last Name, First Initial. (Year Published) Article Title. *Journal Name*, Volume Number, Page Number(s).

Examples:

Crackton, P. (1987). The Loonie: God's long-awaited gift to colourful pocket change? *Canadian Change*, 64(7), 34-

37. Rottweiler, F. T., & Beauchemin, J. L. (1987). Detroit and Narnia: Two foes on the brink of destruction. *Canadian/American Studies Journal*, 54, 66-146.

Articles in a Magazine or Newspaper

Format:

Author's Last Name, First Initial. (Date Published). Article Title. *Publication Name*, Volume Number, Page Number(s).

Examples:

Henry, W. A., III. (1990, April 9). Making the grade in today's schools. *Time*, 135, 28-31.

Wrong, M. (2005, August 17). "Never Gonna Give You Up" says Mayor. *Toronto Sol*, p. 4.

Electronic Sources

Format:

For Internet articles that are based on a print source, use the appropriate style above and add Retrieved Date, from Web site to the end of the citation. For Internet only sources, use the following: Web Site Author. *Web Site Title*. (Date Published). Retrieved Date Retrieved, from Web site URL.

Examples:

Marlowe, P., Spade, S., & Chan, C. (2001). Detective work and the benefits of colour versus black and white.

Journal of Pointless Research, 11, 123-124. Retrieved October 25, 2007, from <http://www.pointlessjournal.html>.

Bicycle Helmet Safety Institute. *Bicycle Helmet Standards*. (September 12, 2004). Retrieved January 12, 2005, from <http://www.helmets.org/standard.htm>.

Personal Communications

Format:

Interviewee Name. Interviewee Area of Expertise or Affiliation. Place of Interview: Date(s) of Interview.

Examples:

Echrlisch, Jim. Agronomist. Monte Vista, Colorado: 11/4/99.

Swart, Randy. Director, Bicycle Helmet Safety Institute. Via telephone: 2/21/05.

Internet Navigation Tips:

To find the Arkansas Valley Regional Science Fair registration page please do the following:
Note: the on-line registration will not be available (activated) until December 1st 2018

1. Go to www.ojc.edu/about/newsevents/ojcevents/sciencefair/
2. Click on AVRSE (which stands for Arkansas Valley Regional Science Fair).
3. Click on the on-line registration form button (not available until Dec. 1st 2018) and fill out the form!

To find information regarding rules and regulations:

1. Go to www.ojc.edu/about/newsevents/ojcevents/sciencefair/ This page gives you basic information on our science fair, including time and dates (February 28 thru 29).
2. Click on the [link](#)
3. [link](#)

To download all forms:

1. Go to www.ojc.edu/about/newsevents/ojcevents/sciencefair/
2. [link](#)
3. [link](#)

Important Links and Information for Adult Sponsors

For Rules and Guidelines visit:

<http://www.societyforscience.org/Document.Doc?id=9>

For Paperwork and Forms visit:

<http://www.societyforscience.org/isef/document/>

For a description of types of risks to determine if Form 3 is needed visit:

<http://www.societyforscience.org/Page.aspx?pid=317>

And click on the [Risk Assessment Guide](#) button.

For a description on project display and safety visit:

<http://www.societyforscience.org/Page.aspx?pid=312>

And click on the [Intel ISEF Display and Safety Regulations](#) button.

To determine risks involving human study projects visit:

<http://www.societyforscience.org/Document.Doc?id=40>

21st AVRSEF Science Fair 2017 Schedule

*note this is a change from last year's schedule. School sponsors or parents are required to accompany the student throughout registration, set up and judging.

Wednesday, February 22nd

3:00 pm – 6:00 pm	Registration, Safety and Display, and Project Set-Up
6:00 pm – 10:00 pm	Judges preliminary can look at projects

Thursday, February 23rd

8:00 am – 2:00 pm	Judges preliminary can look at projects
2:00 pm – 5:00 pm	K-5 th Grade Student Interviews and Judging. Students will be judged as a drop-in basis.
6:00 pm - 8:00 pm	6 th – 12 th Grade Student Interviews and Judging (only finalists and judges are allowed in exhibit hall).
8:00 pm – 10:00 pm	Final Judging (students do not need to be present).
6:00 pm	Students with SRC violations will be interviewed (please check if you are on the list)

Friday, February 24th

8:00 am – 3:00 pm	Exhibit Hall open to the public (students will not be allowed to Remove posters unless they obtain a written permission from the fair director).
3:00 pm	Awards Ceremony at the Ed Stafford Theatre (Doors open at 4:30)
4:00 pm	Removal of posters promptly after Awards

Possible Student Workshops on Friday morning from 9:00 – Noon

Final Comments and Common Mistakes:

- The most common mistake is not having the proper signatures taken prior to experimentation date.
- The most frustrating mistake is getting the roles of the adults confused; this is frustrating because it usually is a mistake on the adults not the students. Remember, a Parent and/or Teacher may be the Student Sponsor, the Designated Supervisor and at the same time if qualified he/she may be the Qualified Scientist for any given project. What **cannot** be allowed is for that person to also be one of the IRB or SRC approval signatures. So it is best to keep IRB and SRC members from sponsoring projects.
- Please contact us for any approval issues prior to the beginning of your student's experimentation date.
- I always recommend the first few months of the semester (September, October, and maybe even November) to be preparatory months. Have your students prepare a research plan with five reference of what they want to do. Then determine if you will need to obtain special SRC or IRB approval signatures. First, obtain those signatures/ approvals, then, give the paperwork (**Form 1B**) to both parents and students to sign, finally, have the adult sponsor sign **Form 1**. Once this is done the student may begin with actual experimentation/data gathering.
- Finally, please keep in mind that this is a not for profit volunteer run operation and we may seem busy at times but we are here to help answer your questions and will address your concerns as quickly as we can.

FORMS

Every Project needs:

Form 1

Form 1A

Form 1B

Research Plan

Risk Assessment Form 3 (Suggested)

Other forms may be need if Risk, Vertebrate Animals, Hazardous Biological Agents or Human Subjects.

Easily accessed and typed at this site:

K – 8th Grade at:

[http://www.csef.colostate.edu/Guidelines/Requirements for All Projects.pdf](http://www.csef.colostate.edu/Guidelines/Requirements%20for%20All%20Projects.pdf)

or

[http://www.csef.colostate.edu/ISEF Paperwork Guidelines.htm](http://www.csef.colostate.edu/ISEF%20Paperwork%20Guidelines.htm)

9th – 12th Grade at:

<http://student.societyforscience.org/forms>

or

[http://www.csef.colostate.edu/ISEF Paperwork Guidelines.htm](http://www.csef.colostate.edu/ISEF%20Paperwork%20Guidelines.htm)