

2015 Science Fair Rules

For more information go to our website:
<http://sites.google.com/site/rcfascience/home>

Supts. – Jay Davis

General Information

1. The Robertson County Fair Association, Inc. (RCFA) reserves for its Officers and Board of Directors the final and absolute right to interpret these rules and regulations and arbitrarily settle and determine all matters, questions, and differences in regard thereto, otherwise arising out of, connected with or incidental to the Robertson County Fair. **THE RCFA MANAGEMENT RESERVES THE RIGHT TO MODIFY, AMEND, CHANGE, OR ADD TO THESE RULES AS IT, IN ITS JUDGEMENT, MAY DEEM ADVISABLE.** Any person who violates any of the general rules or special rules will forfeit all privileges and premiums won. **THE RCFA, INC. WILL NOT BE HELD LEGALLY RESPONSIBLE FOR ANY DAMAGES OR INJURIES TO ANY PERSONS, PERSONAL PROPERTIES, EXHIBITORS, EXHIBITS OR LIVESTOCK WHILE ON THE GROUNDS OR IN TRANSIT THERETO OR THEREFROM, OR ANY CAUSE WHATSOEVER.**
2. All students who reside in Robertson County or attend public school in Robertson County and are enrolled in 3rd through 12th grade may enter a science fair project in the Robertson County Science Fair. All ages for the Science Fair (SF) will be based on entrant's age as of January 1, 2015. Entrants in the SF are not required to be in 4-H, FFA, or FCCLA.
3. Each student may submit only one science project and all projects must be individual. No teams will be allowed.
4. Each project must have been researched, developed, and completed within the last twelve-month period: March 27, 2014 through March 25, 2015.
5. There will be five age divisions, based on the entrant's age on January 1, 2015. The age divisions are:
 - a. 8 – 9 years old
 - b. 10 – 11 years old
 - c. 12 – 13 years old
 - d. 14 – 15 years old
 - e. 16 years old & above
6. There will be a \$20.00 entry fee for each entry in the SF. Application forms and SF rules can be found on the RCFA website (www.rcfatx.org) and the SF website (<http://sites.google.com/site/rcfascience/home>). Completed forms with the \$20.00 entry fee shall be returned on the entry nights set for the RCFA fairgrounds on Tuesday, February 24 2015 and at Franklin and Bremond Schools on Thursday, February 26, 2015. March 1, 2015 is the deadline for all entries. Late entries will be accepted as follows: entries received March 2 – 7, 2015 will be charged an additional \$50.00 late entry fee. No applications will be accepted after March 7, 2015.

7. The SF application must be signed by the entrant and the parent/guardian and submitted with the 2015 RCFA Entry Form attached which must be signed by the principal verifying student eligibility to participate in the SF.
8. Each science fair project must contain:
 - a. The Written Portion – will consist of: an age-appropriate research paper related to the experiment and student's experimental notes; the science problem (question); hypothesis; materials and methods/procedures used to conduct the experiment; data collected (charts or photos); the experimental results (graphs); the conclusion; and the list of references (at least two). This portion may be typed or hand-written and should be bound in some fashion. Suggestions for the format of the research paper are available on the SF website (<http://sites.google.com/site/rcfascience/home>).
 - b. The Experiment – the student must conduct an experiment based on the science problem mentioned above. This experiment must include a control, and must be repeated a minimum of three times to be able to collect sufficient data to compare experiment results to reach a conclusion.
 - c. The Display – explains the project and may include the re-creation, photographs, or other acceptable visuals of the experiment. The display must also contain the following: the science problem (question); hypothesis; materials and methods/procedures used to conduct the experiment; data collected (charts or photos); the experimental results (graphs); the conclusion; and the list of references (at least two). The display may be typed or hand-written. Students will not be penalized if they do not have a typed displayed.
9. Cash prizes will be based on availability. All cash prizes will be distributed after the RCFA annual meeting which is usually held in late April.

Tuesday, March 24, 2015

10. The complete science fair project with display must be checked in at the Fireman's Hall on Tuesday, March 24, 2015 between 4:00 pm and 7:00 pm. At this time all projects will be review for compliance and completion. See SF website (<http://sites.google.com/site/rcfascience/home>) for forms used during this process. Forms will be provided at check-in. Use the website as a reference.
11. The Science Fair Committee (SFC) will assign each participant a number at check in. None of the components of the science project may show the participant's name. Only the participant's number shall be used prior to and during judging. After the judges have reached their decisions and before the SF opens to the public, each project will be identified by the participant's name, grade, and school.

Wednesday, March 25, 2015

12. All participants must arrive at FIREMAN'S Hall and proceed directly to their projects between 8:30 a.m. and 8:45 a.m. on Wednesday, March 25, 2015. At 8:45 a.m., there will be a short orientation meeting for students, parents, and teachers. Afterwards, all parents and teachers will be asked to leave, and the students will remain for a short answer session.

- a. Orientation will include information about the procedures of the day.
 - b. The Short Answer – the SFC will ask the students two questions pertaining to their project. Paper and pencils will be provided by the SFC. The written response must be a minimum of three sentences and no more than one page in length. The short answer will be evaluated as part of the Science Fair project.
 - c. Students with hand-writing disabilities must submit written verification of this disability from an independent professional. This notification must be included in the SF application when entering. All students with a verified disability will be appropriately accommodated to insure participation.
13. Judging will begin upon completion of the short answer session and will continue until all projects have been reviewed. All entrants must be present to explain the projects to the judges and to answer their questions. Failure to be present will disqualify the project. Participants will be free to leave after completion of their interviews with each judge.
14. Judging will be based on a 100 point scale, based on the following criteria: Creative ability – 25 points; Scientific Method – 30 points; Thoroughness – 20 points; Skill – 15 points; and Clarity – 10 points.
15. All participants shall attend a thank you note writing session as directed by the SFC during the judging session to complete hand-written, age-appropriate thank you notes for sponsors. SFC will assign thank you notes to be written during this time.

Thursday, March 26, 2015

16. All participants are encouraged to return to the Fireman’s Hall at 5:15 p.m. on Thursday, March 26, 2015 to present their projects during the Science Fair Open House. After the Open House closes at 7:00 p.m., all participants are to remove their projects from the Fireman’s Hall. Removal of all projects will be the responsibility of the student, parents, and/or guardians. Any project not removed by the specified time will become the property of the RCFA and shall be disposed as the RCFA sees fit. Projects may NOT be removed prior to the closing at 7:00 p.m.
17. A list of winners for each of the age divisions will be posted by 5:15 p.m. on Thursday, March 26, 2015 in the Fireman’s Hall.
18. On Thursday, March 26, 2015, all 1st through 3rd place winners must:
- a. Sign a work schedule committing him/herself, along with a parent/guardian to watch the science fair projects for a two-hour period during the public viewing times on the weekend of the Robertson County Fair, from Friday, March 27, 2015 through Sunday, March 29, 2015. No double shifts to watch science fair projects visual arts/ needlework/sewing projects during the same time block will be allowed. High school Junior and Senior students need not have a guardian present during the assigned shift.
 - b. Pick-up a “thank you packet” containing blank thank you notes and a list of three sponsors. Each winner must submit hand-written, age-appropriate thank you notes to the assigned sponsors. Thank you notes will be checked for grammar, spelling, content, and neatness.
 - i. Take their projects to the Exhibition Hall for display for the duration of the Robertson County Fair from Friday, March 27 through Sunday, March 29,

2015. The 1st through 3rd place winners must remove these projects from the Exhibit Hall by 4:00 p.m.
- ii. Winners must turn in their completed thank you notes on Sunday, March 29, 2015 from 3:00 -4:00.
19. All 4th through 15th place winners will receive a Recognition Award. These awards will be placed on projects after judging and are to be picked up with the project. It is the responsibility of the entrant and their parents/guardians or teachers to pick up their awards. These winners WILL NOT be required to work any shift at the exhibition hall.
20. The SFC shall impose a \$50.00 to \$100.00 monetary penalty for all unexcused violations pursuant to Rule 1 of the Robertson County Science Fair. Additionally, failure to comply with the “thank you note” requirement of the SF by the deadlines mentioned above, the entrant will forfeit any and all cash awards won and will be disqualified from participation in the 2016 Robertson County Science Fair.

Science Project Guidelines

21. Categories: Projects must be based on one of the following categories:
- Botany – study of plant life; agriculture, agronomy, horticulture, forestry, plant biorhythms, plant anatomy, plant taxonomy, plant pathology, plant genetics, hydroponics, algae, etc.
 - Chemistry – study of nature and composition of matter and laws governing nature; physical chemistry, organic chemistry, biochemistry, inorganic chemistry, materials, fuels, plastics, metallurgy, soil chemistry, etc.
 - Earth/Space Sciences – geology, geophysics, physiography, oceanography, meteorology, atmospheric physics, seismology, petroleum, geography, speleology, mineralogy, topography, optical astronomy, astrophysics, etc.
 - Engineering – technology, projects that directly apply scientific principals to manufacturing and practical uses; civil, mechanical, aeronautical, chemical, electrical, photographic, lasers, sound, automotive, marine, heating and refrigerating, transportation, environmental engineering, power transmission and generation, electronics, communication, architecture, bioengineering, etc.
 - Environmental Sciences – study of pollution (air, water, land), pollution sources and their control, waste disposal, impact studies, environmental alteration (heat, light, irrigation, erosion), ecology, etc.
 - Physics – theories, principals and laws governing energy and the effect on matter; solid state, optics, acoustics, particle, atomic, plasma, superconductivity, fluid and gas dynamics, thermodynamics, semiconductors, magnetism, quantum mechanics, etc.
 - Invertebrate Zoology – study of invertebrates. No vertebrate animal projects will be permitted. No projects involving human subjects will be permitted.
22. The SFC is concerned about the safety of the all entrants performing experiments with potentially dangerous materials. Adult supervision is recommended during completion of all experiments.
23. Examples of unacceptable projects that will be disqualified:

- a. Live, disease-causing organisms which are pathogenic to humans or other vertebrates, unless student provides the SFC with sufficient verification that the project was conducted under the direct supervision of an experienced, qualified scientist in a medical center, university laboratory, or institutional laboratory. The supervising scientist will be required to submit a statement to this effect, which must be included in the Participant's written materials.
 - b. Microbes, microbial cultures and fungi, live or dead, including unknown specimens and provides the SFC with sufficient verification that the project was conducted under the direct supervision of an experienced, qualified scientist in a medical center, university laboratory, or institutional laboratory. The supervising scientist will be required to submit a statement to this effect, which must be included in the Participant's written materials. Exception: work done with yeast.
 - c. Vertebrate animals (live or dead)
 - d. Human subjects shall not be a component of any experiment (i.e. surveys, subjective analysis, etc.)
 - e. Invertebrate animals subjected to mutilation or death as part of the experiment.
 - f. Taxidermy specimens or parts
 - g. Preserved vertebrate or invertebrate animals
 - h. Human/animal tissue, body parts, body fluids (i.e. blood, urine) Exceptions: teeth, hair, nails, pasteurized milk, unfertilized eggs, and dried animal bones will be permitted.
 - i. Photographs or other visual presentations of vertebrate or invertebrate animals in surgical techniques, dissections, necropsies, other lab techniques, improper handling methods, or improper housing conditions
 - j. Waste samples and materials
 - k. Illegal drugs, controlled substances, hazardous substances or devices (i.e. firearms, weapons, ammunition, or other similar type of reloading device)
 - l. Sublimating solids (i.e. solids which vaporize to a gas without passing through a liquid phase). Exception: dry ice will be permitted for the experiment, but cannot be brought to the Science Fair for the judges' interviews.
 - m. Any device that required greater than 125 volts to operate.
24. If an entrant is uncertain whether a project is dangerous or hazardous, he or she may request prior approval from the SFC. The request must be submitted to the SFC superintendent by 5:00 pm, February 1, 2015.

Display Requirements at Competition

- 25. The science project display may be on a freestanding board, or may be multi-media, including photographs, other visual aids, videos, or laptop computer. However, very few electrical outlets are available. It is recommended that battery-powered devices be used whenever possible. If an electrical outlet is required for a project, the entrant must provide a grounded electrical extension cord of at least 12 feet in length. Tables will be provided for displays.
- 26. Any element or apparatus that would be dangerous or hazardous to the health of the general public will not be allowed to be displayed. The SFC reserves the right to

disqualify any projects deemed too dangerous or hazardous and require the project to be removed from the fairgrounds immediately.

27. The following items are acceptable for display and operation – with noted restrictions.
 - a. Class II lasers must be entrant-operated; a sign must be posted stating, “Laser Radiation: Do Not Stare into Beam”. The laser must have protective housing that prevents access to the beam and it must be disconnected when not in operation.
 - b. Large vacuum tubes or dangerous ray-generating devices must be properly shielded.
 - c. Pressurized tanks that contain non-combustibles may be used if properly secured.
 - d. Empty tanks that previously contained combustible liquids or gases must have been purged with carbon dioxide to be acceptable to display.
 - e. Any apparatus producing temperatures that will cause physical burns must be adequately insulated.
 - f. High-voltage (over 12 volts) must be shielded with a grounded box or cage to prevent accidental contact.
 - g. High-voltage (over 12 volts) wiring, switches, and metal parts must have adequate insulation and overload safety devices, and must be inaccessible to others.
 - h. To reach electrical outlets, those requiring 125-volt AC circuits must provide a grounded electrical extension cord of at least 12 feet in length. All cords must have sufficient load-carrying capacity and be approved by Underwriters Laboratories.
 - i. Electrical connections in 125-volt circuits must be soldered or made of approved connectors. Connection wires must be insulated.
 - j. Voltage greater than 125 volts is not permitted. The maximums are 500 watts @ 130 VAC/60 hertz.
 - k. Bare wire and exposed knife switches may be used only in circuits of 12 volts or less; otherwise, standard closed switches are required.
 - l. Handouts to judges are left to the discretion of the judges but can only be in the form of the project abstract.
28. The following items are acceptable for display only, but can not be operated:
 - a. Projects with unshielded belts, pulleys, chains, and moving parts with tension or pinch points.
 - b. Class III and IV lasers
29. The following items are acceptable for use in experiments, but unacceptable to bring for display to the Robertson County Fairgrounds as part of the project display. These items may be used in the experiment but the display brought to the fairgrounds must be limited to visual/audio presentations of those items (pictures, video, models, computers, etc.)
 - a. Living organisms researched in a laboratory setting that qualifies under Rules 26 above (i.e. micro-organisms, algae, fungi).
 - b. Human or animal food. Exception: plants will be allowed if not harmful to humans or other vertebrates.
 - c. Sharp items (i.e. knives, needles, syringes)
 - d. Flames or highly flammable display materials

- e. Laboratory/household chemicals and acids. Exception: amounts integral to an enclosed apparatus and water
 - f. Batteries with open top cells
 - g. Poisons or drugs
 - h. Dry ice.
30. The following items are deemed unacceptable to bring to the Robertson County Fairground as part of the display portion of the science fair:
- a. Awards, medals, business cards, accomplishments, addresses, phone or fax numbers
 - b. Personal photographs, videos or other presentations not directly related to the science fair project.