

7th Annual Earth Innovations Science Fair 2019



DISCOVERY

EXPLORATION

DESIGN

SCIENCE

TECHNOLOGY

INVENTION

**Earth Innovations**

Science Fair 

www.earthinnovationsfair.org

**Calling ALL young minds!
Any individual student or group of students, school or organization can enter the Earth Innovations Science Fair – FREE (ages 11-18).**

We've broadened the categories to welcome ALL avenues of scientific inquiry – and there will be prizes in multiple categories.

STUDENTS: Win prizes, create your own projects, learn amazing things, build your college portfolio, show your project to 25,000 people at the Reno Earth Day Earth Innovations exhibition.

TEACHERS & Education/Youth Organizations: Feel free to use the Science Fair to supplement or enhance your existing curriculum, as extra credit assignments, as a special class or school projects, or as an added component of an existing fair.

Earth Innovations showcases its projects in the spectacular venue of the Reno Earth Day Festival – in the California Building. This event brings a crowd of 25,000 people to witness the fruit of these innovative young minds – where students can boast, explain, defend & network their projects, as well as enjoy the overall Festival. At a designated time, a team of Judges from our local scientific community assesses all projects for a more formal presentation, award categories – and winners are announced onstage at the event!

**OVER \$500 IN
CASH AWARDED
EVERY YEAR**

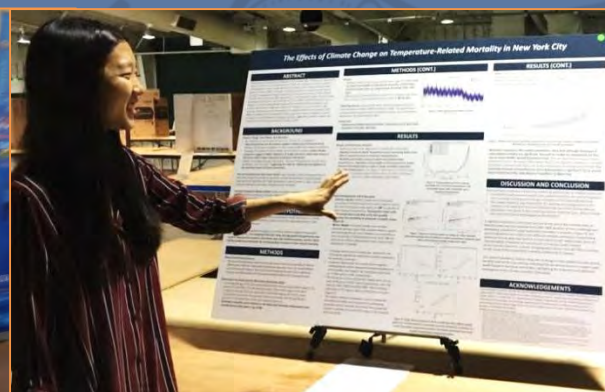
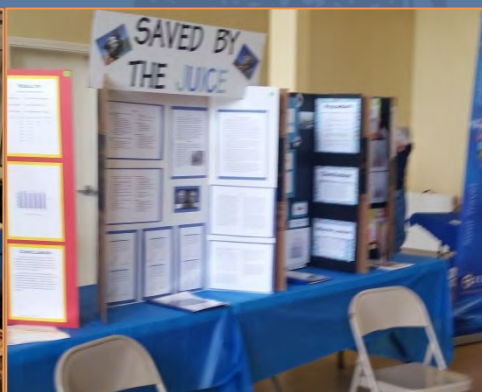
**LAPTOPS,
ELECTRONICS,
BICYCLES, AND
MORE PRIZES**

***Registration Deadline:
April 12, 2019***

***Contact: Susan Fairfield, Assistant Science Fair Director,
(775) 544-2983, earthinnovationsfair@gmail.com***

BACKGROUND

Earth Innovations is a program of Mercury Momentum. Mercury Momentum is a local non-profit organization started in 2012 to promote sustainability, education, community involvement and volunteerism, cultural and social awareness and the arts through special events. Earth Innovations hosted its science fair for five years in partnership with the Regional Science Fair of Northern Nevada, selecting finalists from the regional fair to join our students at large at the Earth Day Festival Showcase. 2017 was the final year for the regional fair, but Earth Innovations will continue the tradition of hosting a local science fair for our young innovators!



AWARD CATEGORIES

- Flora & Fauna
- Food Science
- Earth & Environmental Sciences
- Inventions & Innovation
- Electricity & Electronics
- Robotics
- Biology
- Chemistry
- Physics
- Behavioral & Social Sciences
- Energy & Space
- Astrophysics
- Computer Science & Math

PRIZES

- Cash Grand Prizes
- Laptops
- Facility Tours
- Mentor Opportunities
- Invite to VIP Party
- Goodie Bags
- Participation Certificate

CLASS/GROUP SIGN UP PROCESS

1. Review Science Fair Rules and Guidelines
2. Contact Us if you have any questions
3. Fill out registration forms for each project being submitted
4. Contact Us if you would like to set up a presentation and/or preliminary judging at your school, club, or facility (*pre-judge is required if submitting more than 2 projects to the fair as we only have space for 50 finalists*)
5. Work on your projects! We have compiled a list of supplemental documents to help you through the process at our website.
www.earthinnovationsfair.org
6. Finalists will be able to present their projects at the Reno Earth Day event at Idlewild Park on April 28, 2019 and compete for awards in several categories as well as prizes.
7. We can also assist any students with the submittal process for the Google Science Fair coming in the Fall of 2019.

INDIVIDUAL SIGN UP PROCESS

1. Review Science Fair Rules and Guidelines.
2. Contact Us if you have any questions.
3. Fill out registration forms for each project being submitted.
4. Contact Us if you would like to set up a presentation at your school, club, or facility.
5. Work on your projects! We have compiled a list of supplemental documents to help you through the process at our website.
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6. Finalists will be able to present their projects at the Reno Earth Day event at Idlewild Park on April 28, 2019 and compete for awards in several categories as well as prizes.
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THANK OUR PARTNERS

The Earth Innovations Science Fair would not be possible without the help of our partners, sponsors and volunteer groups. Please remember to thank them for their contribution to our community!



HOW TO PARTNER WITH THE FAIR

- a) Sponsor the Fair (get all the recognition benefits that come with the extensive Earth Day festival specifically as an Earth Innovations sponsor;
- b) Donate a prize, gift certificate, special award, etc.;
- c) Offer a facility tour, mentorship or other experience with your organization;

Benefits of Supporting

- A) Recognition in all Earth Innovations media (& Earth Day media if desired);
- B) Free space (unlimited) at the Earth Day event for any purpose desired: Product/Service/Technology/Exhibition, Customer Engagement, Community Involvement, Public Relations, Sales/marketing, Employment recruiting, etc.;
- C) Judging and employee volunteer opportunities
- D) Strong connection with one of the largest most-loved community events in the area balancing education with the celebration.

RULES AND GUIDELINES

Our rules for the Science Fair seek to allow maximum creativity and exploration of ideas for the student, while still remaining safe and logistically feasible.

1. All work presented must be the student's work. Outside parents, teachers and professionals can work as guides and can supervise the investigation, but should not take part except in cases of safety. Parents cannot participate in the preparation or presentation, except to help with materials and act as an audience for practice.

2. All outside assistance and research needs to be cited, using the citation sheet included in this packet.

3. Projects may be completed by an individual or in a group of up to six students.

4. Projects involving animal subjects or animal data are limited to the following: Use of data from pre-existing, publicly available resources; and use of data from observational or behavioral projects that involve animals in their natural environment or in an existing observation laboratory (e.g. a university). Non-live animals and insects must not be exhibited and are not permitted for use in this event. Observations can be displayed through photos if the subject does not meet these requirements.

5. Projects involving human subjects, human data or human testing are limited to the following: Use of data from pre-existing, publicly available resources; Use of data from behavioral observations of unrestricted, public settings; and, use of data received and recorded in an anonymous/de-identified format.

RULES AND GUIDELINES (CONT.)

6. Dangerous chemicals, drugs, heat or flame, and explosives must not be exhibited, and are not permitted by municipal/state laws for this event. No project may involve usage or handling of hazardous chemicals. THE USE OF CARCINOGENS OF ANY CATEGORY IS STRICTLY BANNED.

7. Any of the electrical apparatus used in experiments must be built according to standard electrical safety laws. Projects that utilize 100 or more volts may not use push-button switches (doorbell type) or open-knife switches. All projects using 100 or more volts must have a main disconnect switch. All wires must be of the size and insulation appropriate for the current and voltage used. All electrical apparatus of 100 or more volts must be enclosed to prevent users from receiving an electrical shock.

8. Projects involving biological agent subjects, biological agent data or biological testing are limited to the following:
Use of data from pre-existing, publicly available resources; Use of organisms recorded as being in Biosafety Level 1 (BSL1) and lower; Approved categories include; Baker's yeast and brewer's yeast, except when involved with DNA studies; Lactobacillus, Bacillus thuringiensis, nitrogen-fixing, oil-eating bacteria, slime mold and algae-eating bacteria introduced into their natural environment. Culture of bacteria or fungi within domestic areas is strictly prohibited. Culture where carried out must be in sealed petri dishes under appropriate supervision by professionals routinely engaged in biological agent culture, by participants with access to autoclaving facilities. Studies of mold growth on food items outside of a professional laboratory may only be allowed if the experiment is terminated at the first evidence of mold;

RULES AND GUIDELINES (CONT.)

9. Use of tissues are limited to the following:

Plant tissue; Established cell and tissue cultures (e.g., obtained from the American Type Culture Collection). Note: The source and catalog number of all cultures should be identified in the Research Plan. Meat or meat by-products obtained from food stores, restaurants, or packing houses; Hair; 8 Teeth that have been sterilized to kill any bloodborne pathogen that may be present. (Chemical disinfection or autoclaving at 121 degrees Celsius for twenty (20) minutes is a recommended procedure); Fossilized tissue or archeological specimens.

10. The student's name and any identifying information may appear only on the back of the project. A copy of the completed registration form should be taped to the back of the display board. Names and faces may not be visible during judging. Awards, ribbons grades from previous assessments must be removed before Reno Earth Day judging.

11. When set up for display, the project must be able to stand on a table or the floor by itself for at least 24 hours. Reno Earth Day staff will not be able to repair a poorly constructed display or in any other way attend to equipment. As it is often necessary to move projects after they are set up, the entire display must be sturdy and easily portable. If display of experimental apparatus is not possible; please use photographs, descriptions, and diagrams instead.

12. Earth Innovations staff reserves the right to remove from display and, if necessary, dispose of inappropriate items as outlined above. Final decision as to the appropriateness of any item is at the discretion of the Science Fair Coordinator.

13. Entrants are responsible for the installation, maintenance, and removal of their projects. All projects must be removed from the California Building by 7pm on April 28, 2019. Leftover projects will be discarded after this time. Reno Earth Day staff will not be responsible for the security of items exhibited.

RULES AND GUIDELINES (CONT.)

14. Entrants will have the opportunity to present an oral presentation of their project for the judges the day of the event at approximately 3:00 pm. Participants are encouraged to present and demonstrate their projects during the event where feasible. If the nature of the project can only be demonstrated once, this demonstration should be saved for the judging. Presentation for the judging should be a maximum of 3 minutes each.

15. All participants in the fair will receive a Certificate of Participation. Category winners will receive prizes from a diverse pool of prizes donated by local business and organizations.

16. Judging will be done on site the day of the event, April 28, 2019. Winners and prizes will be announced at approximately 4:00 pm on event day on one of our prominent stages.

17. The entire program, participating schools and teachers, winners and prizes will all be featured on our event website, press releases and possible public service announcements leading up to and after the event.



REGISTRATION FORM

Earth Innovations Science Fair Registration Form

Project Title: _____

Student Name(s): _____

School: _____ **Teacher:** _____

Detailed Description of Project: _____

Display Dimensions: Width _____ **Length** _____
Height _____ **Weight** _____

Electricity Requirements: _____

Special containment/ventilation/etc. requirements (note, student must provide these as part of their project, but they must be described here):

Why have you chosen to do this project?

CITATIONS SHEET

Earth Innovations Science Fair Citation Log

Page ___ of ___

Book

Last Name, First Name. Title. Publication Place: Publisher, Publication Year.

Magazine/Newspaper

Author(s). "Title of Article." Title of Periodical Day Month Year: pages.

Scholarly Journal:

Author(s). "Title of Article." Title of Journal Volume Issue (Year): pages.

Website

Site Name. Date of Posting. Name of institution/organization affiliated with the site (sometimes found in copyright statements). Date accessed <url>.

STUDENTS FINAL CHECK LIST

Did you remember to...

Include every required category (Hypothesis, Procedure, Materials, etc.)?

Label every chart, graph and illustration?

Provide a caption for every photograph?

Proofread every word on your display board?

Ask yourself...

Is the type large enough to read from afar? Stand 3 feet away to check.

Are lines straight? Are text blocks and graphics properly aligned? (You can re-do a section by covering mistakes with matching colored paper and pasting new text and graphics over that. This time use a ruler!)

Does the display look overly crowded with information? If so, consider removing some less important items and displaying them creatively on the table instead.

Are there any empty spaces on the board? If your layout looks uneven, consider adding some items to balance it out.

Did you follow all rules and guidelines pertaining to your particular fair?

If you require electricity, have you checked to make sure any plugs or wiring are up to safety codes?

Have you packed a “repair kit” of supplies for any last-minute touch-ups at the fair?