



Austin Energy Regional Science Festival 2017
IMPORTANT GUIDELINES AND CHANGES
JUNIOR/SENIOR DIVISION

2017 CHANGES, MODIFICATIONS AND REMINDERS

NOTE: Parking will be free of charge at the Palmer Events Center parking garage to all participants.

- Improved online registration and project management system.
- No paperwork will need to be submitted. All is handled online.

No Major Rules Changes

Reminders:

- New online system, more powerful tools
- Students must obtain parental permission to create a student account
- Research Plan- Now includes “Summary/Conclusion” section
- Sr. Division “2nd Tier” ISEF finalist selection process has changed slightly. Judges will select the best projects regardless of the category. No longer will 1st place in each category necessarily be selected for 2nd Tier judging in the Sr. Division. 1st-3rd place in each category will still automatically advance to the State Fair.
- Category Names have changed. There are still 17 categories but they have been re-organized. Categories will be different from Fair to Fair. A new category “Robotics” has been added.
- School fee has been changed to \$45.
- Schools invoices will be e-mailed upon registration. Invoices must be paid before the deadline.

No other major changes! A few updates to the online system were made to make navigation and management easier but the steps involved have not changed.



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JUNIOR AND SENIOR SCHEDULE

ORIENTATION

There are two possible orientation dates for teachers and judges. Please choose the one that best fits your schedule.

TEACHER ORIENTATIONS

Thursday, September 15, 2016	6:00 – 7:30 p.m.	Orientation for Secondary Teachers Anderson High School Cafeteria 8403 Mesa Drive Austin, TX 78759
Thursday, September 22, 2016	6:00 – 7:30 p.m.	Orientation for Secondary Teachers Austin Energy Assembly Room 721 Barton Springs Road Austin, TX 78704

JUDGE ORIENTATIONS

Thursday, February 2, 2017	5:30 – 7:00 p.m.	Orientation for Judges Anderson High School Cafeteria 8403 Mesa Drive Austin, TX 78759
Tuesday, February 07, 2017	5:30 – 7:00 p.m.	Orientation for Judges Austin Energy Assembly Room 721 Barton Springs Road Austin, TX 78704

DOCUMENT REVIEW AND SUBMISSION DEADLINES

Thursday, January 26, 2017	5:00 p.m.	Deadline for Online School Registration, Deadline for Online Student Science Project Registration - Deadline for Online Registration for Judges and Volunteers - Deadline to submit complete school packet to our office (See Teacher's Checklist or Registration Form for details.)
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All registrations must be separately completed online for each project, volunteer and judge. Schools only register once. Register online at www.sciencefest.austinenergy.com. **All registrations MUST BE Finalized by 5:00 p.m. on Thursday, January 28, 2017.** Late entries will be charged Late Fee Rates and accepted only if space is available. Schools with incomplete packets will also be charged late fee rates.

(Next)

FESTIVAL SCHEDULE

Wednesday February 15, 2017	3:00 – 7:00 p.m.	Check-in and set-up for the Junior and Senior Projects
Thursday February 16, 2017	8:00 a.m.	Senior Division Judges Sign-in, Review Requirements & Assignments
	9:00 a.m. – 12 noon	Senior Division Judging (<i>Attending students must be at their project</i>) <i>It is recommended that students be at their project at 8:45 a.m., 15 minutes before judging begins.</i>
	12:45 p.m.	Junior Division Judges Sign-in, Review Requirements and Assignments
	1:00 – 4:00 p.m.	Second-tier Judging for the Senior Division
	1:30 – 4:30 p.m.	Junior Division Judging (<i>Attending students must be at their project</i>) <i>It is recommended that students be at their project at 1:15 p.m., 15 minutes before judging begins.</i>
	4:30 – 9:30 p.m.	Public Viewing of Junior and Senior Division Projects
	7:00 – 9:30 p.m.	Junior and Senior Awards Ceremony
	9:30 – 10:30 p.m.	Dismantle Projects

Junior/Senior projects not picked up by 10:30 p.m. on February 16 will be set aside until Saturday, February 18. These projects can be picked up at Palmer Events Center on February 18 between 4:30 p.m. – 5:00 p.m. **Projects not picked up by 5:00 p.m. on February 18 will be discarded.**



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JUNIOR DIVISION TEACHER CHECKLIST

1. Attend one of the Teacher Orientation sessions held in September (see schedule for details).
2. If you are absolutely unable to attend an orientation session, or are in need of extra help, please let us know as soon as possible via e-mail: russell.cowen@austinenergy.com.
We will do our best (schedule allowing) to visit your campus.
3. Registration will be handled by Scienceteer. If you had an account last year, simply log in. If your school did not participate last year, you must e-mail: russell.cowen@austinenergy.com to request an account.
4. After you have setup your school account you must log in and complete the required steps and add Teachers/Adult Sponsors. All users should log in daily to check for messages or signature requests.
5. Teachers will provide NEW students with a special link to register. If the students used Scienceteer last year, they don't need the link, they just need to login.
6. There is no limit to the number of students that can create accounts and work on their projects. In the end the school will select only the projects that will advance online. Each school is allowed to send up to 70 projects.
7. Projects must have completed all of their steps before the school can select them to advance.
8. Follow the online steps, select your winners and finalize and pay for your school before the deadline of **Thursday January 26, 2017**.
9. All projects and registrations will be done online and paperless (including the media release forms, signatures, etc). There will be no more paper to turn in.



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SCHOOL REGISTRATION FEES AND INFORMATION

JUNIOR/SENIOR DIVISION

REGISTRATION STEPS

- Login to your Scienteer account at www.scienteer.com and follow the steps.
- Finalize school registration online at by selecting your winners in Scienteer.
- Register volunteers and judges online at www.sciencefest.org
 - Each school should provide one judge **and** one volunteer for every 10 registered school projects.

NOTE: All registration **MUST BE FINALIZED** and invoices paid by the deadline of January 26, 2017. Late entries will be charged late fee rates and accepted only if space is available.

HOW TO CALCULATE REGISTRATION FEES

LATE FEES

1. School Registration Fee		\$45		\$75
2. Project Registration Fees (Max - 70 projects)		\$15		\$25
	Number of Projects _____	x \$15 = \$ _____	@ \$25 = \$ _____	
3. TOTAL FEES PAID		\$ _____		\$ _____

HOW TO PAY REGISTRATION FEES

Your school will be emailed an invoice from the Austin Science Education Foundation after The school finalizes registration online.



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JUDGING CRITERIA

FOR JUNIOR/SENIOR PROJECTS

Student(s) _____ School _____

Category _____ Row: Project # _____ Judge # _____

Title _____



Students are judged on EITHER 2a OR 2b

I. CREATIVE ABILITY				
A. Idea for project	1	3	5	
	Assigned by teacher	Developed jointly with teacher	Originated by student	
B. Approach used	1	3	5	
	"Cookbook"	Followed directions	Devised own approach	
C. Analysis & interpretation of data	1	3	5	
	Minimal analysis	Notices relationships	Relationships clearly defined and implications noted	
D. Materials & development	1	3	5	
	Basic "Kit"	Basic with modifications	Student created	
2a. SCIENTIFIC THOUGHT for non-engineering-related				
A. Posing the problem	1	3	5	
	Problem not evident	Problem unclear or untestable	Testable problem	
B. Experimental design	1	3	5	
	No clear plan	Poorly organized plan	Logical approach	
C. Variables/controls	1	3	5	
	No variables or controls stated	Variables confounded or not clearly stated	Variables listed, controls used	
D. Conclusion	1	3	5	
	Unclear or inadequate conclusion	Weak conclusion not clearly supported by data	Conclusion clearly supported by project data	
2b. ENGINEERING for engineering-related projects				
A. Engineering goals	1	3	5	
	No clear goals established	Goals weak/incomplete	Goals clearly established	
B. Design criteria	1	3	5	
	No clear plan	Disorganized	Logical approach	
C. Feasibility	1	3	5	
	Neither workable nor economical	Workable OR economical	Workable and economical	
D. Relevance	1	3	5	
	No potential use	Unclear potential application	Potential application demonstrated	
3. SKILL				
	1	3	5	
	Simple project poorly done	Simple project done well	Difficult project done well	
4. THOROUGHNESS				
A. Adequate data	1	2	3	
	Insufficient data to support conclusions	Adequate data	Abundant data; limitations noted	
B. Subject knowledge	1	2	3	
	Minimal knowledge of subject	Adequate knowledge of subject	In-depth subject knowledge relevant to work	
C. Further research indicated	1	2	3	
	None cited	Few questions or further applications noted	Suggestions for further study and applications noted	
5. CLARITY OF COMMUNICATION				
A. Exhibit display	1	3	5	
	Display information unclear, disorganized, or incorrect	Display somewhat clear and informative	Display information clear and well presented	
B. Written report & interview	1	3	5	
	Report missing or minimal information given	Report somewhat informative and moderate knowledge orally expressed	Concise, clear expression of knowledge, both written and oral	
6. TEAM				
A. Contribution of team members	1	3	5	
	Teamwork not evident	Members' roles not clearly demonstrated	Contributions of all members evident	
B. Coordinated efforts	1	3	5	
	Presentation not coordinated	Presentation somewhat coordinated	Coordinated and Effective Presentation	

Please place notes and comments on the back.

Sciencert Student Steps

A. Registration & Parental Permission

B. Pre-Project steps:

- 1: Title and Category
- 2: Team Status
- 3: Project Start Date
- 4: Survey Questions
- 5: Research Plan
- 6: Extra Forms
- 7: Bibliography
- 8: Research Locations
- 9: External Signatures
- 10: Project Approval Method
- 11: Teacher Approval
- 12: IRB Approval
- 13: SRC Approval

C. Experimentation TIME

D. Post-Project Steps

- 14: Project End Date
- 15: Form 1C Signature
- 16: SRC Post-approval checks
- 17: Project Summary
- 18: Abstract

Confirmation, Choose New Category. (if advancing)

Survey Completion (if not advancing)

Student Research General Guidelines and Time Requirements

1. Create a reasonable timeline with specific goals and due dates. All projects will have to be 100% complete by the deadline in January.
2. Student Research at middle and high school level is a very involved process requiring a lot of preparation before students are even allowed to start experimenting.
 - a. 1 Week
 - i. Choosing a Topic: This is often the most difficult process. Students will need guidance. Students should be given assignments to be discussed in class (see **“Topics for Discussion”** attachment). The trick is to forget about science for a moment, try to discover each student’s passion and interests. A student doing research on a topic they enjoy will make them more dedicated and make the process more rewarding. Once they have a hobby or an interest, it is easy to find the science involved (science is in everything).
 - b. 2-3 Weeks
 - i. Start obtaining parental permission for each student to conduct research. This can take time so it should be an on-going activity during this phase. Parental permission must be obtained before the student starts experimentation.
 - ii. Do background research on selected topics. This is important! Students should learn as much as they can about their topic and all science related to it. That way they don’t repeat someone else’s experiment or mistakes. They should become experts in their topic before they start experimenting.
 - iii. Formulate a specific question, hypothesis or engineering goal. It should be very narrow, testable and focused. Start thinking about a procedure and how you will test.
 - iv. Think of a good scientific title for the project that is descriptive. A judge should be able to tell what a project is about, just by reading the title. Titles should NOT be creative, they should be DESCRIPTIVE:
 1. Bad Example (1): “Magnetism vs Plants”
 2. Bad Example (2): “Got Magnets?”
 3. Good Example : “The effect of 100 gauss magnetic field on the growth rate of Phaseolus vulgaris over the period of 10 days”

In the above “good” example, notice how the title is very specific to what exactly the student is testing:

- 100 gauss magnet: (typical refrigerator magnet with a specific strength of 100 gauss).
- Phaseolus vulgaris: Scientific name of the particular plant the student tested
- 10 days: The specific time scope of the experiment

- c. 2 or more weeks
 - i. Write up a research proposal, what you intend to do, what materials you will use and step by step instructions you will use. Include at least 5 legitimate references (bibliography) from where you retrieved your background research. References should be in APA format. "Google" or "Wikipedia" are not valid references. They can be web based but should be real peer reviewed publications.

- d. 1 or 2 weeks

Teacher will review all proposals before students begin their research. Some research will require prior review by special committee (in addition to the teacher).

 - i. Vertebrate Animal Studies
 - ii. Studies involving Human Participants as test subjects (including opinion surveys, etc.)
 - iii. Studies involving microorganisms (bacteria mold, etc.) (MUST BE DONE IN A LAB, CAN'T BE DONE AT HOME!!)

The online system will guide the student and teacher through this process step by step.

- e. Once the project has been approved, the student may begin the actual experimentation. The amount of time a student needs will depend upon the study.

- f. 1 week:
 - i. When the study is complete, the student will analyze and summarize their data and write an Abstract (brief summary of project including their question, hypothesis or engineering goal, general procedure and conclusions). The Abstract will be 250 words or less.

- g. 1 -2 Weeks
 - i. Students will create their Display boards to help them present their information to the judges. Students should practice their presentations. A good presentation will NOT be a memorized speech. Students should present as if they are teaching the subject to others. Judges will interact, ask questions etc. A student will have about 10 minutes to present and answer questions from each judge.

Topics for Discussion

1. List three of your favorite hobbies or things you enjoy doing.
2. If you had magic powers, list three things you would do to change the world.
3. If you were a great inventor, list three things you might create or make better.
4. What is the most fun thing you have ever done?