



Austin Energy Regional Science Festival SCIENCE FAIR GUIDELINES AND TIME REQUIREMENTS

It is vital to create a reasonable timeline with specific goals and due dates. All projects will have to be 100% complete in the Scienceteer Registration system by the deadline in January. 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. This is a general guideline for the process.

Early September (1 week)

Students -

- Choose 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. Students doing research on a topic they enjoy will make them more dedicated and make the process more rewarding. Once they have identified a hobby or an interest, it is easy to find the science involved (science is in everything).

Mid September (2 Weeks)

Teachers -

- Start student registration on www.scienceteer.com. Start obtaining parental permission for each student to begin their account.

Students -

- 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. The bibliography should contain at least 5 sources.
- Make a copy and start filling out the [Student Research Plan Template](#) as they work on their project.
- Formulate a specific question, hypothesis or engineering goal. It should be very narrow, testable, and focused. Start thinking about a procedure and how to test it.
- Write a rationale about why the experiment or engineering goal is important. Explain how the research could affect the real world.

- 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:
 - Bad Example (1): “Magnetism vs. Plants”
 - Bad Example (2): “Got Magnets?”
 - 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

Early October (2-3 Weeks)

Students -

- Complete their research plan, what they intend to do, what materials they will use and step by step instructions they will use as well as how they will analyze the data. This should all be written in future tense, because the project is not done yet. Students should include at least 5 legitimate references (bibliography) from where they retrieved their background research. References should be in APA format. They can be web based but should be real peer reviewed publications. “Google” or “Wikipedia” are not valid references.
- If the research involves human participants, vertebrate animals, microorganisms, hazardous materials/activities/devices, or is a continuation from a previous science fair experiment, students need to fill out the extra information for those sections on the [Student Research Plan Template](#).

Teachers -

- Review all research plans and give students feedback.

Mid October (2 Weeks)

Students -

- Answer the survey questions about the experiment. This will create the proper forms.
- Enter all information in Scienceteer from the Student Research Plan Template and submit for teacher approval.
- Check Scienceteer regularly and make any revisions requested.
- After teacher approval, submit for any additional approvals necessary until Scienceteer asks for the End Date.

Teachers/SRC/IRB -

- Sign in to Scienceteer daily and check for any projects needing approval. Send any projects back for revisions if needed.
- Remember to check for [ISEF rule](#) violations. For example, bacteria/mold can NOT be cultured at home.
- Encourage students to make corrections as needed until all projects are approved.

November - December (Varies)

Students -

- Begin the actual experimentation. The amount of time a student needs will depend upon the study.
- Collect data and take photos.
- When complete, students will analyze and summarize their data and write an Abstract (brief summary of the project including their question, hypothesis or engineering goal, general procedure and conclusions). The Abstract will be 250 words or less.

Teachers -

- Monitor any students who are required to do their projects at school.
- Review data analysis, conclusions, and abstracts.

Early January (1-2 Weeks)

Students -

- Create their project boards following the [ISEF Display and Safety Regulations](#) to help them present their information to the judges. Students should practice a two minute presentation that explains their project. 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.
- Complete any steps left in Scienceteer.

Teachers -

- Review project boards and all Scienceteer documentation. Give students feedback.

Mid January (2 weeks)

Teachers -

- Hold a School Science Fair to select your winners and give students a chance to practice getting judged.
- Select and Finalize Winners in Scienceteer by the deadline.

Students -

- Participate in the School Science Fair.
- Complete Scienceteer Registration for the Regional Fair if advancing by the deadline.

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?