



Austin Energy Regional Science Festival
HOW TO DO AN ELEMENTARY
SCIENCE FAIR PROJECT – STUDENT GUIDE

1. PURCHASE A NOTEBOOK

You will use this notebook as a journal or log book to write down everything you do. You need to date every entry and note how much time you spent on each item. Begin writing in your journal when you start brainstorming ideas.

2. BRAINSTORM GENERAL IDEAS

- What are your interests or likes? Sports, dance, computers, animals, food, gross stuff, building things... etc.
- What kind of science interests you?
 - . Plants
 - . Animals
 - . Human Body
 - . Electricity, Gravity, Force, Light
 - . Chemicals, Acids/Bases
 - . Memory, Illusions, Training
 - . Volcanoes, Rocks, Weather
 - . Product Testing
 - . Surveys
- Look at project idea books and/or Web sites like www.sciencebuddies.org
- Check the list of projects that are not allowed to make sure you don't choose any of those types of projects. <http://www.sciencefest.org/images/pdfs/ElemRulesForParticipation.pdf>

3. PROJECT BOARD TEMPLATE <http://www.sciencefest.org/images/pdfs/ElemProjectTemplate.pptx>

- Look over the template, paying close attention to the Rules and Guidelines on slide 3
- Create a copy of the template to use as your own presentation
- Create your Project Board on Slide 1 (see part 4 for help with this)
- After you complete your project, answer the Reflections on Learning questions on Slide 2

4. COMBINE YOUR FAVORITE IDEAS INTO A PROJECT

1. Remember to write a journal entry every time you do any work on your project. List the date and how much time you worked for each entry. Be sure to take pictures as you go that can be used in your "Journal/Log Book" or on your project board section of your virtual presentation (slide 1).
2. You will need to identify your goal or the question/problem you are trying to solve. If your project is an experiment, *the question needs to be something that you're able to test.*
3. If you are doing an experiment, formulate a "Hypothesis." A hypothesis is a guess at what you think will happen when you test your experiment. If your project is not an experiment, you might not have a hypothesis, you might have a design goal instead.
4. Find the "Definitions" of any important words that are written in your Goal, Problem Statement or your Hypothesis.

(More on next page)

5. Begin background research by taking notes from books, websites or articles that talk about your subject. These will be your “References”. You need at least three references. You will know you have completed your research when you can discuss your topic in your own words for about 5 minutes.
6. Once research is completed, begin organizing all the information into paragraphs. This will be the “Background Information” section that you’ll put on your project board.
7. Make a list of the “Materials” that you will need to conduct your experiment; be sure to include quantities.
8. Write up your “Procedure,” or the steps that you will follow when doing your project. Be detailed so that someone reading your project board could do your project, using just your instructions.
9. If you are doing an experiment, remember that an experiment must consist of at least 2 groups. One group is the “Control” and the other is the “Variable.” Both groups are identical, except for one specific element. The “Variable” is the specific element that is different; it is the very thing that you are trying to test. (An example experiment might be to test a stain remover to see if it removes stains any better than washing with no stain remover. The stained garments, your wash technique, and drying technique would be exactly the same for both groups, with one exception. In the Variable group, you would use a stain remover. In the Control Group, you would *not* use a stain remover.)
10. Use a timeline to plan how long it will take you to complete your project and create a project board. If you will need live subjects (people, plants, or animals), be sure to allow enough time. (Remember, plants take a while to grow.)
11. Do your project and record the “Results” which tells what happened. Remember that a good project will have results that you can clearly see or measure. If you can, use a chart and/or a graph to clearly show your results on your project board.
12. After you find your Results, form a “Conclusion” paragraph which answers the question in the Problem Statement and talks about what happened in your experiment. Be sure to include ways to improve your project in the future.
13. Don’t forget to include “References” on your project board (list of websites, people, and books where you got your information).
14. Pay close attention to the layout of the project board for your virtual presentation. The order of information should make sense and be visually interesting. Be sure to include all the required elements and photos. As a last step, add a creative “Title” and be sure to list the person who took the photos on the board or any websites where you got your graphics or photos under “Photo and Display Credits”.
15. Make sure your project board follows all the guidelines on slide 3 of the Elementary Division Project Board Template. <http://www.sciencefest.org/images/pdfs/ElemProjectTemplate.pptx>
16. Answer the Reflections on Learning questions on slide 2 of the virtual presentation.
17. Save the virtual presentation as a pdf file.
18. Send a copy of your virtual presentation to your teacher.