



Wednesday, April 19th, 2023

******(Projects due by Wednesday, April 19th - projects will be brought in the morning of the Science Fair and brought home the same day!)******

SCIENCE PROJECT STEPS FOR STUDENTS

- 1. Choose a partner.** You may choose to work with ONE additional person. You may also work independently if you prefer. Remember, work will need to be done outside of school so please choose a partner with this in mind.
- 2. Choose a topic.** Be sure it interests you. Don't pick one because you think it will be easy. Talk it over with your parents and when you have decided, inform your teacher.
- 3. State your purpose as a question.** What is it that you want to find out by doing this project?
- 4. Research your problem.** Look at any books/websites that might help you, make observations by simply looking at things, talk to people, and find out as much as possible about your topic. Write down any ideas you have and where you got them. Also, keep note of all information needed for citing your resources.
- 5. Form a hypothesis.** What do you think is going to happen? Based on what you know or found out from step #4, what do you think the results of your experiments will be? After doing the experiments, it may turn out that your guess was wrong...***it is okay if this happens!*** That's what research is all about.
- 6. Plan your project.** How will you test your hypothesis? What experiments will you do? How will you measure the results? Where will you keep your information? Be sure to keep notes and write down everything you do and what happens.
- 7. Collect all your materials.** Find a place to keep things where others won't bother them. Let other family members know what you are doing so they do not throw your materials away by mistake.
- 8. Conduct your experiments.** Remember, the more times you do an experiment the more reliable and accurate the results will be. Do each experiment at least three times and get an average of the results for your graph. Use something to measure your experiments: a ruler or yardstick if you are measuring distance, a clock to measure time, etc. Check the measurements to be sure you are correct.

9. Record your data. As you do your experiments, you will want to write down what you saw or found out. Organize this information in an orderly manner. Put the date, time, and any other useful information. Write your measurements clearly.

10. Draw conclusions. What did you learn from your experiments? Have you proved or disproved your hypothesis? You made a guess about what you thought would happen. Now tell what really did happen. You don't lose points if your guess turned out to be wrong.

11. Prepare your titles, charts, graphs, drawings & diagrams: Make them large enough to see, neat, and colorful.

12. Construct your science fair display. Get a display board so you can show all your work and have your hands free to point to sections when you give your presentation.

13. Prepare and practice your presentation. Be able to tell about what you used, what you did in your experiments, and what you found out. Know it well enough that you don't have to read it from the display.

14. Plan a timeline so you don't leave everything until the last minute. If you need help, tell your parents and your teacher, the earlier the better. **Most importantly:** even if the experiment didn't work, present your results anyway! Failure encourages better thinking. It forces you to look back and ask, why didn't that work? What went wrong? When you try, you learn. When you fail, you learn even more. Don't give up!!!

15. Most importantly - Relax and enjoy yourself. You will do a GREAT job! Learning should be fun!

The following link can provide helpful ideas for narrowing down your topic:

<https://www.sciencebuddies.org/science-fair-projects/topic-selection-wizard/recommendations>

ICS Science Fair Rules and Guidelines

- 1) Work exhibited should be done by the entrant during the current school year. Outside advising from parents, teachers, or professionals is fine, but **the student must do his or her own work**.
- 2) The student's names, teacher's name, and grade/classroom must be printed neatly on a 3" by 5" card and be affixed to the project.
- 3) Any writing on the project (eg. title, abstract, procedure, results, conclusion, etc.) should be typed or written neatly. Any charts, tables, or diagrams should be legible.
- 4) When set up for display, the project base must fit within a rectangle 48 inches across by 20 inches wide (tri-fold posters will fit) and must be able to stand on a table by itself for at least two days. Teachers will not repair a poorly constructed display or in any other way attend to equipment.
- 5) Any electrical apparatus used in experiments must be powered by batteries only and should be properly wired to eliminate the risk of shock. Buttons/Switches are advisable to preserve battery life.
- 6) The use of any chemicals in a display **MUST** be cleared with the teacher prior to beginning the project. Drugs, heat/flame, and explosives are not permitted.
- 7) No glass or other sharp objects may be exhibited.
- 8) **No live or dead animals, or cultures (bacteria, fungi, molds, etc.) may be exhibited**; plush animals, figurines, models, photographs or drawings should be used instead.
- 9) Fresh citrus fruits, root vegetables, and dried foods (eg. pasta, seeds) are permitted.
- 10) Any liquids used should be non-flammable & non-hazardous
- 11) ICS Faculty reserve 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 Coordinators.
- 12) **All projects must be dropped off at ICS on April 19th, and must be removed from ICS by April 19th.** Leftover projects will be discarded after this date.
- 13) Any sabotage or damage to another entrant's project will result in immediate disqualification.
- 14) Projects will be graded on appearance/construction, the use of the scientific method, an oral presentation (lasting 3-5 minutes including Q&A), and creativity/innovation.