

Independent Research Project

Choosing Your Topic

Chemistry I Honors
Mrs. Johannesson

Guidelines

Your topic should be:

1. Personally interesting to you,
2. Original,
3. Capable of being completed by the assigned date,
4. Understood and agreed upon by you, your parents, and the teacher.

Specific Requirements

1. Your project must be experimental in nature. It must have a testable hypothesis. The experiment must involve constants and/or control groups and must involve the manipulation of a single condition, or variable.
2. The data to be collected must be observable and measurable in some standard unit of measure (not based on value judgment). SI units are preferred. For example, meters, grams, seconds, and decibels are acceptable. Good, better, tall, short, and greenish are not acceptable.
3. The project must show that the process of developing good scientific thought was followed (not just following instructions from a book of science projects).
4. The project must show a measure of creativity. For example, "Do plants need light to grow?" would not be an acceptable problem. Everyone knows the answer before the project begins.
5. Some experiments have special requirements. If these requirements present a problem, there are many other interesting areas to consider.
 - **Human subjects** – Must be approved by the school Institutional Review Board (IRB). Consent forms must be signed by all participants and their parents. Supervision by a qualified scientist may be required.
 - **Pathogens and Controlled Substances** – Must be approved by the school Scientific Review Committee (SRC). Must be supervised by a qualified scientist.
 - **Animal Tissue and rDNA** – Must be approved by the school SRC. Supervision by a qualified scientist may be required.
 - **Hazardous Substances or Devices** – Must be approved and supervised by a designated supervisor who is experienced in working with the hazardous substances or devices.
 - **Non-human Vertebrate Animals** – Must be approved by the school SRC. Must be done under the supervision of a certified animal care specialist, such as veterinarian. This option is strongly discouraged!
6. Teacher approval of your topic must be obtained BEFORE you start working on your project. Also, you must fill out all necessary protocol papers and receive approval BEFORE you begin data collection.

Final Note

Keep in mind that an IRP is not a library report, a drawing from a book on poster board, an art project, a model you build, or something that you do over a weekend (or even a week). Start to work on your project early and make good use of the time you are allowed to ensure that the final project will reflect all of the planning you put into it. You should enjoy your project, so avoid the stress of waiting until the last minute!