

Experimental Projects

Experimental Projects are based on a testable question and include a claim hypothesis; materials; procedure; independent, dependent, and controlled variables; results displayed in the form of a chart or graph; explanation of the results; and a paragraph describing the conclusion that answers the question.



Project Approval

Students choosing to complete an **Experimental Project** should follow the guidelines below. Projects will be accepted based on approval of the project abstract by the Elementary Science, Technology, Engineering, and Mathematics Fair Approval Committee.

- A. Acceptable examples of Experimental Projects:** Include any question that is answered by doing an experiment or investigation; and includes a manipulated (independent), a responding (dependent), and controlled variables.
- B. Unacceptable examples of Experimental Projects** include any question that involves:
- The growth of microorganisms from our environment such as washed/ unwashed hands, cutting boards, kitchen sponges, etc. or any microorganisms obtained from a commercial, research, or medical source. Growth of mold on food is not acceptable. (**safety concerns**).
 - The use of vertebrate animals (including humans) as test subjects (**safety concerns**).
 - The use of controlled substances such as drugs, alcohol, or dangerous chemicals (**safety concerns**).
 - The use of firearms or dangerous projectiles.
 - Models or demonstrations such as volcanoes or solar systems.
 - Questions that can be answered with a simple Internet search.

Observational Projects

Observational Projects are based on a question formed from prior observations and include a claim (hypothesis); known manipulated (independent) and observed responding (dependent) variables; evidence (data) collected by scientists; observation, or surveys of people, animals, or the environment displayed in the form of a chart or graph; an explanation of the data identifying patterns and trends; and a paragraph that describes reasoning (conclusion) that answers the question.

Project Approval

Students choosing to complete an **Observational Project** should follow the guidelines below. Projects will be accepted based on approval of the project abstract by the Elementary Science, Technology, Engineering, and Mathematics Fair Approval Committee.

- A. Acceptable examples of Observational Projects include the following:**
- Questions concerning weather patterns and cycles.
 - Questions concerning Astronomy patterns and cycles.
 - Physical Science questions using math concepts.
 - Environmental questions about vertebrate animal movements or behaviors (including humans).
 - Pencil and Paper surveys or Opinion surveys.
 - Perception questions, such as color determination, presented without treatment.
- B. Unacceptable examples of Observational Projects:**
- Any project that involves the giving or withholding of food, water, exercise, medication, or learning to any vertebrate animal (including humans) (**safety concerns**).
 - Narrative reports based on a collection of facts not centered on a question.
 - Questions that can be answered with a simple Internet search.

