

8th Grade Pre-AP General Science Semester Project Overview

Students taking 8th Grade Pre-AP General Science are required to complete an extensive science project. Each student will be expected to complete a project individually. No team projects will be allowed. Students have three options to choose from. These options require elements of research, design, data collection, and analysis. Students will submit a report of the project they choose as well as present it through the use of a board display (first semester) and a multimedia presentation (second semester).

Students are expected to seek approval of their topic from their science teacher prior to the development of the project. Students will receive detailed guidelines and a timeline shortly after approval of their topic. Students will be expected to follow the timeline and turn drafts of the project report in periodically for review throughout the semester.

General Topic Guidelines and Suggestions

The process of brainstorming for potential topics is one of the most important steps. Students are expected to spend considerable time and effort identifying and evaluating appropriate project topics. Students should pick a topic they like and one that their parents will approve. Topics are expected to be challenging, meaningful, and original.

Upcoming Dates

Wednesday, September 7 – List of 10 Potential Topics Due; Class time will be used to analyze and evaluate project topics. Must be typed.

Friday, September 9 – Final Topic Choice Due including brief description (six to eight sentences) of what the project will involve. Must be typed.

Monday, September 12 – Introduction of Project Guidelines and Overview of Timeline; Discussion of Research Process & Bibliography Practice

Science Fair Project

In the Oklahoma Science and Engineering Fair program, the main emphasis of a science fair project is on scientific research and experimentation. Through this program, participants will solve a problem through the use of experimentation and data collection. The research and display must be entirely the work of the student; but this does not mean that he or she may not seek advice and technical assistance from qualified individuals. 7th and 8th grade students may complete a project involving humans (surveys), animals, and chemicals or biological agents to fulfill the project requirement for PreAP Science, but they will be ineligible to participate in any science competition. Take note of the points and resources listed below when considering topics for a science fair project.

- The topic should be original, testable, and significant (make a difference).
- The topic should be age appropriate (eighth grade level or above). No elementary level projects.
- The topic should be a cause and effect.
- There are three areas that you can use to help you brainstorm potential topics.
- Check out the project topic ideas at <http://www.all-science-fair-projects.com/>
- Check out the project topic ideas at <http://sciencebuddies.com/>
- Check out the project topic ideas on my teacher website under the class files section.
- Example Project Topic: How does the temperature of water affect the time it takes the water to freeze?

Science Fair Project Categories

- Behavioral and Social Sciences
- Engineering and Transportation
- Environmental Management and Environmental Science
- Math and Computer Science
- Animal Sciences
- Plant Sciences
- Engineering: Electrical/Mechanical and Materials/Bioengineering
- Cellular: Molecular Biology and Microbiology
- Biochemistry, Medicine, Health, Chemistry
- Physics, Astronomy, Earth, and Planetary Science

Invention Fair Project

In the Oklahoma Student Inventors Exposition program, the main emphasis of the invention fair project is on research and design. Through this program, participants will identify a problem that can be solved by designing, developing, and testing a product that can address the problem. Entries are judged on the basis of creativity, usefulness, illustration, communication of ideas, and research performed. Limited adult assistance in the creation of the display or model is permitted, but the majority of construction or assembly of the invention should be done by the individual student. Take note of the points and resources listed below when considering topics for an invention fair project.

- The invention should be an original object or system. It may also be an improvement on an already existing item (an innovation).
- The invention should help make work easier and/or solve a problem. Consider an invention that can help/improve health and safety, education, the elderly, or the environment.
- The invention does not need to be complicated.
- The invention is expected to be creative and useful.
- Example Project Topic: Sock drawers can become disorganized making it difficult and time consuming to find socks that match. Invention: A sock dispenser will be constructed that can be attached to a wall to allow for easier and quicker access to a pair of socks.
- Example Project Topic: Parents are often forgetful and leave their infant in a car seat in the backseat of a car. Invention: A warning device will be built that will be activated when the door of a car is opened to remind parents to retrieve their infant from the car.

Invention Fair Categories

- Inventions that assist in Health and Safety
- Inventions that assist in Education
- Inventions that assist Senior Citizens
- Inventions that assist the Environment
- Special/Miscellaneous Inventions

Science Research Project

This project involves studying a controversial scientific topic. The project will require you to conduct research on the topic and analyze each side of the issue. After gathering and reading over a considerable amount of research, the student will choose one side of the issue and write a position paper defending his or her side of the issue. The project will also involve writing a legislative bill into law that will propose a solution to the student's side of the issue. Take note of the points and resources listed below when considering topics for a science research project.

- The topic should be scientific and controversial in nature that today's society is facing.
- Check out the project topic ideas on my teacher website under the class files section.
- Example Project Topic: What are the issues behind embryonic stem cell research?
- Example Project Topic: The project will involve a study of drilling in the Gulf of Mexico and the economic and environmental impacts.