

SCIENCE FAIR

What is Science Fair?

- A. Science fair is an opportunity for students to apply the scientific method and to conduct independent research. The results of each student's research is presented in a school wide "science fair" where the student's efforts are displayed and where students are interviewed to determine scientific merit. Students who have been judged to have used the scientific method properly and who have demonstrated thoroughness in their studies and efforts are awarded medals and are advanced to compete in the regional and state science fairs.

Why do we have Science Fair?

- A. Science Fair helps students develop and refine skills needed for continued success in the sciences.
 - 1. Creates a unique opportunity to DO science.
 - 2. Provides real experiences and methods by which all scientific knowledge has been and is still being gathered.
 - 3. Allows students the independence to learn, understand, and apply the scientific method.
 - 4. Trains the mind to think critically and logically.

- B. Science Fair helps students develop and refine skills in many other academic areas.
 - 1. resourcing the library and the internet.
 - 2. conducting primary and secondary research
 - 3. statistical analysis
 - 4. logic and reasoning
 - 5. speech and communication
 - 6. time management and organization

- C. Science Fair fulfills many of the Illinois learning standards.
 - 1. Language Arts
 - State Goals 3 and 5: Use the language arts to acquire, assess and communicate information for a variety of purposes.
 - 2. Mathematics
 - State Goal 7: Estimate, make and use measurements of objects, quantities and relationships and determine acceptable levels of accuracy.
 - State Goal 10: Collect, organize and analyze data using statistical methods; predict results; and interpret uncertainty using concepts of probability.
 - 3. Science
 - State Goal 11: Understand the processes of scientific inquiry and technological design to investigate questions, conduct experiments, and solve problems.
 - State Goal 13: Understand the relationships among science, technology and society in historical and contemporary context.

What will be expected?

- A. The science fair project is divided into five major components or parts.
 1. Choosing the topic
 - be original
 - be scientific
 - be realistic
 2. The Research Paper:
 - review literature about your topic and closely related topics
 - write a properly formatted and cited research paper
 3. The Experiment
 - formulate a hypothesis
 - create and implement an experimental design
 - collect data and make observations
 - analyze and report the results
 4. The Visual Display
 - prepare a keynote presentation that illustrates the complete science project
 - prepare a podcast that illustrates the complete science project
 - display equipment and materials needed to explain the project (paper)
 5. The Oral Presentation
 - present orally a summary of the project to your teacher, classmates, or judges
 - share and explain all phases of the project in an open setting