

# Santa Cruz County Science Fair

## Project Categories

Behavioral and Social Sciences	Studies of human psychology, behavior, development, linguistics, and the effects of chemical or physical stress on these processes. Experimental or observational studies of attitudes, behaviors, or values of a society or groups within a society, and the influences of society on group behavior. Includes gender and diversity studies, anthropology, archaeology, and sociology. Studies may focus on either normal or abnormal behavior.
Biochemistry and Molecular Biology	Studies at the molecular, biochemical, or enzymatic levels in animals (including humans), plants and microorganisms, including yeast. Studies of biological molecules, e.g., DNA, RNA, proteins, fats, vitamins, nutrients.
Botany	Study of plant life – agriculture, agronomy, horticulture, forestry, plant taxonomy, plant physiology, plant pathology, plant genetics, hydroponics, etc.
Chemistry	Study of nature and composition of matter and laws governing it – physical chemistry, organic chemistry (other than biochemistry), inorganic chemistry, materials, plastics, fuels, pesticides, metallurgy, soil chemistry, etc.
Cognitive Sciences	Studies of learning, memory, and cognition in humans, using human or animal models for human processes. Studies of the effects of chemical or physical stress on cognition. Includes projects on subliminal perception, optical illusions, recall and observations (e.g., reliability of eyewitnesses), and the interaction of different senses.
Earth Science	Geology, mineralogy, physiography, oceanography, meteorology, climatology, speleology, seismology, geography, etc.
Electronics and Electromagnetics	Experimental or theoretical studies with electrical circuits, computer design, electro-optics, electromagnetic applications, and antennas.
Energy and Power	Studies involving power generation and/or energy efficiency, including all power applications, alternative energy, wind turbines, solar cells, battery technology and solar ovens.
Environmental Engineering	Projects which apply technologies such as recycling, reclamation, restoration, composting, and bioremediation which could benefit the environment and/or the effects of pollution on the environment.
Environmental Sciences	Projects surveying, measuring, or studying the impact of natural and man-made changes on the environment. Examples include: floods, fires, biohazardous spills, acid rain, earthquakes, air pollution, and water pollution.
Mathematics and Software	Studies in geometry, topology, real and complex analysis, number theory, algorithm analysis and optimization, artificial intelligence, computability, computer graphics, modeling and simulation, programming environments and languages.
Medicine and Health Sciences	Studies of diseases and health of humans animals – dentistry, pharmacology, pathology, ophthalmology, nutrition, sanitation, dermatology, allergies, speech and hearing, etc.
Microbiology	Biology of microorganisms – bacteriology, virology, protozoology, fungi, bacterial genetics, yeast, etc.
Physics and Astronomy	Theories, principles, and laws governing energy and the effect of energy on matter – solid state, optics acoustics, particle, nuclear, atomic plasma superconductivity, fluid and gas dynamics, thermodynamics, semiconductors, magnetism, quantum mechanics, biophysics, etc.
Product Science	Comparison and testing of commercial off-the-shelf products for quality and/or effectiveness for intended use in real-world consumer-oriented applications. This category is reserved for experimental methods involving biological and non-biological sciences and processes.
Zoology	Study of animals – animal genetics ornithology, ichthyology, herpetology, entomology, animal ecology, paleontology, cellular physiology, circadian rhythms, animals husbandry, cytology, histology, animal physiology, invertebrate neurophysiology, studies of invertebrates, etc.

**Note that the above categories with large numbers of entries may be further divided into sub-categories to balance the competition.**