

Massachusetts Science & Engineering Fair

2026 High School Fair Categories

Multiple qualified judges will review each project. In order for the judging to be conducted fairly and accurately, it is important that students properly categorize their project.

- What is the project about?
- And then, what are the steps or method needed to achieve a result? Check out the [judging rubric](#) to make sure it's a match.
- If you have a project that fits into more than one category, choose the category based on what type of expert you would most like to discuss your work.

If you discover your project is misaligned by February 1st you can contact MSEF to recategorize your project. You may not be able to adjust categories between fairs.

Science Research	Engineering/Comp Sci	Math/Modeling
Behavioral and Social Sciences Biochemistry Biology: Cellular, Molecular, or Microbiology Biology: Evolution, Plant and Animal Science Chemistry Astronomy and Space Science Earth and Environmental Science Physics	Computer Science and Technology Engineering: Electrical and Mechanical Engineering: Biomedical Engineering: Environmental	Mathematics (includes data science and computational modeling)

Review the rubric at www.scifair.com/fairs/high-school for more information and criteria.

Middle School project categories can be found [here](#).

- **Behavioral and Social Sciences:**

The study of thought processes and behavior of humans or other animals studied through observational and experimental methods. *Includes: psychology, educational testing, animal behavior, neuroscience, sociology, and anthropology.*

- **Biochemistry:**

The study of the chemical basis of processes occurring in living organisms, including the processes by which these substances enter into, or are formed in, the organisms and react with each other and the environment. *Includes: analytical biochemistry, general biochemistry, structural biochemistry, and medicinal biochemistry.*

- **Biology: Cellular, Molecular, or Microbiology:**

The study of the structure, function, intracellular pathways, and formation of cells. Studies involve understanding life and cellular processes specifically at the molecular level. Microbiology is the study of microorganisms as well as antimicrobial and antibiotic substances. *Includes: cell physiology, cellular immunology, neurobiology, genetics, virology, and microbial genetics.*

- **Biology: Evolution, Plant and Animal Science:**

The study of animals and plants such as structure, physiology, development, evolution and classification. *Includes: pathology, genetics and breeding, nutrition and growth.*

- **Chemistry:**

The study of the composition of substances, their structure, their behavior, reactions, analysis and synthesis. Other topics in this category include: *physical chemistry, organic chemistry, inorganic chemistry, modern materials science, computational chemistry, and environmental chemistry.*

- **Computer Science and Technology:**

Including systems software, robotics, and intelligent machines, this category is for the study or development of software, information processes or methodologies to demonstrate, analyze, or control a process or solution. Additionally studies in which the use of machine intelligence to reduce the reliance on human intervention. *Includes: algorithms, cybersecurity, databases, system languages, mobile apps, machine learning, robot kinematics.*

- **Astronomy and Space Science:**

The science regarding the celestial bodies and the observation and interpretation of the radiation received in the vicinity of the earth from the component parts of the universe. Other topics in this category include: *optical astronomy, radio astronomy, astrophysics, astrometry and astrophotography.*

- **Engineering: Electrical and Mechanical:**

This category includes embedded systems as well as static and dynamic engineering. Studies involving electrical systems in which information is conveyed via signals and waveforms for purposes of enhancing communications, control and/or sensing. Studies may also focus on the science and engineering that involve movement or structure. The movement will be a result of forces; the structure will be stable due to the equilibrium of forces. *Includes: circuits, networking and data communications, optics, sensors and signal processing, aeronautical, automotive, civil, industrial engineering, or civil engineering.*

- **Engineering: Biomedical**

This category is for projects that apply engineering practices to solve biological or medical problems. Projects may create methodologies and/or construct apparatus or biomolecules to obtain data, take measurements, or build understanding of biomedical systems. *Includes: biomaterials, biomechanics, biomolecular engineering, biomedical devices, or biomedical sensors or imagining. Note: Student projects may not independently diagnose disease.*

- **Engineering: Environmental**

This category is for projects that apply engineering practices to develop processes or infrastructure to solve environmental problems in water systems, waste, systems, pollution control, or climate resilience. *Includes: pollution control, water resources management, land restoration, climate adaptation or mitigation.*

- **Earth and Environmental Science:**

Focused on geosciences, ecology and related environmental systems, this category covers the study of weather, climate, rock formations, mineral resources, soils, atmosphere, and biomes, as well as the study of environments and the impact of changes (natural or as a result of human interaction) on ecosystems. *Includes: pollution sources (air, water and land), natural resource consumption, climate science, and invasive species, aquatic science, climate science, geology, geophysics, physical oceanography, meteorology, seismology, mineralogy and topography.*

- **Mathematics and Computational Modeling:**

This category is for both theoretical and applied mathematics projects. This includes the study of measurement, properties, and relationships of quantities and sets, using numbers and symbols. Students may use both inductive or deductive reasoning. *Includes: computational modeling, data science, number theory, probability and statistics, and game theory.*

- **Physics:**

The study of matter, energy, and the interactions between the two that do not involve change in composition. Topics covered by physics include: aerodynamics and hydrodynamics, solid-state theory, optics, acoustics, particle, nuclear, atomic, plasma, thermodynamics, semiconductors, magnetism, quantum mechanics, and biophysics.