

Division C Event Descriptions

Anatomy and Physiology Understand the anatomy and physiology of the human body systems: cardiovascular, lymphatic and excretory.

Astronomy Teams will demonstrate an understanding of stellar evolution in normal and starburst galaxies.

Boomilever Teams will design and build a Boomilever meeting requirements specified in the rules supporting a minimum load and to achieve the highest structural efficiency.

Chemistry Lab Teams will complete one or more tasks and answer a series of questions involving the science processes of chemistry focused in the areas of Physical Properties and Acids and Bases.

Circuit Lab Participants must complete tasks and answer questions about electricity and magnetism.

Code Busters Teams will cryptanalyze (decode) encrypted messages using cryptanalysis techniques and show skill with advanced ciphers by encrypting or decrypting a message.

Designer Genes Participants will solve problems and analyze data or diagrams using their knowledge of the basic principles of genetics, molecular genetics and biotechnology.

Disease Detectives Students will use investigative skills in the scientific study of disease, injury, health and disability in populations or groups of people.

Dynamic Planet Students will use process skills to complete tasks related to glaciers, glaciation and long-term climate change.

Experimental Design This event will determine a participant's ability to design, conduct and report the findings of an experiment conducted entirely on site.

Fermi Questions Teams provide answers to a series of Fermi Questions, which are science-related questions that seek fast, rough estimates of a quantity which is either difficult or impossible to measure directly.

Forensics Given a scenario and some possible suspects, participants will perform a series of tests which along with other evidence or test results will be used to solve a crime.

Fossils Teams demonstrate their knowledge of ancient life by completing selected tasks at a series of stations including but not limited to fossil identification, answering questions about classification, habitat, ecologic relationships, behaviors, environmental adaptations and the use of fossils to date and correlate rock units.

GeoLogic Mapping Teams will demonstrate understanding in the construction and use of topographic maps, geologic maps, and cross sections, and their use in forming interpretations regarding subsurface structures and geohazard risks.

Herpetology Participants will be assessed on their knowledge of amphibians and reptiles.

Mission Possible Participants design, build, test and document a Rube Goldberg-like device that completes a required action through an optional series of specific actions.

Mousetrap Vehicle Teams design, build and test a vehicle using one or two snap mousetraps as its sole means of propulsion to push a paper cup forward, reverse direction, and stop as close as possible to a target point.

Protein Modeling Students will use computer visualization and online resources to construct physical models of the CRISPR Cas9 protein that is being engineered to edit plant and animal cell genomes & answer a series of questions about the chemistry of protein folding & the interaction of structure & function for model proteins.

Sounds of Music Teams must construct and tune one device prior to the tournament based on a 12-tone equal tempered scale and complete a written test on the physics of sound.

Thermodynamics Teams must construct an insulated device prior to the tournament that is designed to retain heat and complete a written test on thermodynamic concepts.

Water Quality Participants will be assessed on their understanding and evaluation of aquatic environments.

Wright Stuff Prior to the competition teams design, construct and test free flight rubber-powered monoplanes to achieve maximum time aloft.

Write It Do It One student will write a description of an object and how to build it, and then the other student will attempt to construct the object from the description.