Category Descriptions

with relatable descriptions

0100 Behavioral and Social Sciences

The science or study of the thought processes and behavior of humans and other animals in their interactions with the environment studied through observational and experimental methods.

Most projects that involve surveys or any involvement of humans and human interactions. Most schools do not allow these as they involve additional forms for entering the science fair. Check with your teacher for approval.

0200 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. (Analytical, Medicinal, Structural, General)

Chemical processes involving living organisms or projects that simulate these processes. One example is osmosis based projects.

0300 Inorganic Chemistry

The study of the properties and reactions of inorganic and organometallic compounds. Studies exploring the science of the composition, structure, properties, and reactions of matter **not** involving biochemical systems or carbon.

Many things fall into this category. Any chemical or physical change/reaction.

0400 Organic Chemistry

The study of carbon-containing compounds, including hydrocarbons and their derivatives. Studies exploring the science of the composition, structure, properties, and reactions of matter not involving biochemical systems.

Chemistry strictly involving carbon or simulating these ideas. This is NOT about organic foods and substances as advertised in marketing schemes.

0500 Earth and Environmental Science

Studies of the environment and its effect on organisms/systems, including investigations of biological processes such as growth and life span, as well as studies of Earth systems and their evolution. (Atmospheric science, climate science, environmental effects on ecosystems, geosciences, water science)

Anything concerning the Earth and Environment.

0600 Animal Sciences

This category includes all aspects of animals and animal life, animal life cycles, and animal interactions with one another or with their environment. Examples of investigations included in this category would involve the study of the structure, physiology, development, and classification of animals, animal ecology, animal husbandry, entomology, ichthyology, ornithology, and herpetology, as well as the study of animals at the cellular and molecular level which would include cytology, histology, and cellular physiology. (Animal Behavior, Cellular studies, development, ecology, genetics, nutrition and growth, physiology, systematics and evolution)

Involving animals. Most schools do not allow these as they involve additional forms for entering the science fair. Check with your teacher for approval.

0700 Biomedical and Health Sciences

This category focuses on studies specifically designed to address issues of human health and disease. It includes studies on the diagnosis, treatment, prevention or epidemiology of disease and other damage to the human body or mental systems. Includes studies of normal functioning and may investigate internal as well as external factors such as feedback mechanisms, stress or environmental impact on human health and disease. (cell, organ, and systems physiology, genetics and molecular biology of disease, immunology, nutrition and natural products, pathophysiology)

Human health or simulations involving human health. Most schools do not allow these as they involve additional forms for entering the science fair. Check with your teacher for approval.

0800 Microbiology

The study of micro-organisms, including bacteria, viruses, fungi, prokaryotes, and simple eukaryotes as well as antimicrobial and antibiotic substances. (Antimicrobial and antibiotics, applied microbiology, bacteriology, environmental microbiology, microbial genetics, virology)

Basically anything involving petri dishes. Most schools do not allow these as they involve additional forms for entering the science fair. Check with your teacher for approval. If you do this you must be in an appropriate lab. Or with permission from the teacher make sure to tape all petri dishes shut and NEVER open and dispose of properly.

0900 Physics and Astronomy

Physics is the science of matter and energy and of interactions between the two. Astronomy is the study of anything in the universe beyond the Earth. (atomic, molecular and optical physics, astronomy and cosmology, biological physics, computational physics and astrophysics, condensed matter and materials, instrumentation, magnetics, electromagnetics and plasmas, mechanics, nuclear and particle physics, optics, lasers, and masers, quantum computation and theoretical physics)

Energy, movement, optics (lights and lasers). Stars, moons, planets or projects related to space.

1000 Engineering Mechanics

Studies that focus on the science and engineering that involve movement or structure. The movement can be by the apparatus or the movement can affect the apparatus. (Aerospace and Aeronautical Engineering, civil engineering, computational mechanics, control theory, ground vehicle systems, industrial engineering-processing, mechanical engineering, naval systems)

Follows the Engineering design process instead of the process of science. Research the problem, develop a possible solution, build a prototype, test the prototype, improve/redesign as needed.

1100 Mathematics and Systems Software

The study or development of software, information processes or methodologies to demonstrate, analyze, or control a process/solution. The study of the measurement, properties, and relationships of quantities and sets, using numbers and symbols. The deductive study of numbers, geometry, and various abstract constructs, or structures. (Algorithms, cybersecurity, databases, human/machine interface, languages and operating systems, mobile apps, online learning, algebra, analysis, combinatorics, graph theory, game theory, geometry and topology, number theory, probability and statistics)

Math or computational projects. Heavy in statistics or “big data” projects.

1200 Robotics and Intelligent Machines

Studies in which the use of machine intelligence is paramount to reducing the reliance on human intervention. (Biomechanics, cognitive systems, control theory, machine learning, robot kinematics)

Anything involving robots or artificial intelligence.

1300 Plant Sciences

Studies of plants and how they live, including structure, physiology, development, and classification. Includes plant cultivation, development, ecology, genetics and plant breeding, pathology, physiology, systematics and evolution. (agriculture and agronomy, ecology, genetics and breeding, growth and development, pathology, plant physiology, systematics and evolution)

Anything involving plants or projects simulating plant properties.