DIVISION/TOPIC DESCRIPTIONS

STUDENTS:

When filling out the student/project registration form, please:

1. Choose the Division that best describes your project, using the four Division descriptions below to help you decide.
2. Choose the Topic or Topics that best describe your project, using the topic descriptions below to help you decide. You may choose more than one topic.

If you are having trouble deciding, ask your teacher or another adult to help you make your choices.

DIVISION DESCRIPTIONS

Life and Health Sciences

A Life and Health Sciences project deals with living organisms, including their organization, processes and relationships to each other, and their environment. This includes fields such as: biology, botany, zoology, animal behaviour, environment/ecology, health/medicine, food/ nutrition, and social sciences such as anthropology and psychology.

Physical and Chemical Sciences

A Physical and Chemical Sciences project examines the nature and interaction of energy and/or non-living matter. This includes fields such as: engineering, earth sciences, physics, chemistry and astronomy.

Mathematical and Computer Sciences

A Mathematical and Computer Sciences project uses mathematical models and/or computer equipment or programs to simulate or solve theoretical or real-world problems. Projects that create or improve a computer program or computer hardware belong in this Division. Projects using computers for the sole purpose of storing and handling data do not belong in this Division; instead, they belong in the Division that best describes the subject matter of the data.

Consumer Goods

A Consumer Goods project performs a comparison of products or foods by means of product testing, taste tests, price/value comparisons or uses.

TOPIC DESCRIPTIONS

Animal Science
- studies or research involving the health of animals including pets, horses, wildlife, animals meant for food or zoo animals. If an animal-human relationship is studied, the primary focus is animal health.

Biochemistry
- study of chemical processes in living organisms

Botany/Plant Science
- study of plant life

Chemistry
- study of the compositions, behaviour, structure and properties of matter (atoms, molecules, crystals) and how they change during a chemical reaction

Computer Science
- development of computer equipment or programs
- use of a computer to accomplish a task where the data is of secondary significance
- projects using computers for the sole purpose of storing and handling data do not belong in this Topic; instead, they belong in the Topic that best describes the subject matter of the data
- in many cases, the topic of Engineering might also apply to projects in Computer Science

Conservation
- study of Earth's biodiversity with the aim of protecting plants, animals and their ecosystems

Consumer Goods
- testing or comparison of consumer goods or food products

Corrosion
- study of the wearing away of metals due to chemical reactions
- a common example is rusting of metals

Earth Science
- study of the planet Earth, the materials of which it is made, the structure of those materials, and the processes acting upon them
- can include rocks, minerals, fossils, petroleum, mining, engineering properties of rocks and soils, ground and surface water (including oceans, lakes and rivers) , oil and water contamination, climate and atmosphere.
- in many cases, the topic of Earth Science might also apply to projects in Environmental Science

Engineering
- application of knowledge of physical processes to solve a problem or achieve a purpose
- normally focuses on a new process or a new product
- for example, a study of Bernoulli's Principle would be Physical Science, while the application of such a principle to improve aerodynamics and wing design would be Engineering

Environmental Science
- study of biological and/or physical factors within an environment
- ecology, pollution, resource management, sustainable development and capture/recapture projects may all be included in this topic
- depending on the nature of the project, the topics of Earth, Life, Physical or Chemical Sciences might also apply to projects in Environmental Science

Food Science
- study of nutrition, food systems and interactions between ingredients, including shelf-life studies and microbiological and chemical testing

Forensics
- application of science to answer questions of a legal nature
- projects in this topic study trace evidence and can be chemical, biological or physical in nature

Gastroenterology
- study of the digestive system

Genetics/Molecular/Microbial Biology
- study of biology at a molecular or cellular level
- genetics, heredity and variation, interactions between various systems in a cell, and microorganisms, such as viruses and bacteria, may all be included in this topic

Human Health
- study of human life or lifestyle and its translation into improved health for humans, including effective health services and products
- physiology, genetics, disease, nutrition, pharmacy, psychology, and the health of populations may all be included in this topic
- projects in this topic include animal research only if they have a direct application to human health

Heating/Cooling
- study of indoor/outdoor air quality, or a study involving heating, ventilation, or air conditioning

Life Science
- study of living organisms, including their organization, processes and relationships to each other and their environment
- biology, plant studies, animal behaviour, ecology, health, and psychology may all be included in this topic

Materials Science
- study of the fundamental properties and characteristics of materials
- projects in this topic study properties of matter and its application to science and engineering

Mathematical Science
- use of mathematical models to solve theoretical problems
- in many cases the topic of Physical Science might also apply to projects in Mathematical Science

Nervous System
- studies involving the nervous system (brains, spinal column, nerves), which approach the topic from any of the following perspectives: biological and cellular; how the nervous system grows and develops; how the nervous system works; anatomy, evolution or ethics

Petroleum Science
- study of the discovery, production and utilization of oil and natural gas

Physical Science
- study of energy and/or non-living matter

Pollution
- study of contaminants in a natural environment, including pollution of air, water or soil

Psychology
- study of mental processes and behaviours

Renewable/Alternative Energy
- study of naturally replenished energy from natural resources including sunlight, wind, rain, tides, geothermal heat

Social Science
- study of how people learn, behave and interact; and of their relationships within society
- psychology, sociology, communication studies, anthropology and education/learning may all be included in this topic

Technology
- application of science to solve a problem, create a product or provide a service

Vision/Ophthalmology
- study of the anatomy, physiology and diseases of the eyes