

**Animal Sciences** Study of animals - animal genetics, ornithology, ichthyology, herpetology, entomology, animal ecology, paleontology, cellular physiology, circadian rhythms, animal husbandry, cytology, histology, animal physiology, invertebrate neurophysiology, studies of invertebrates, etc.

**Behavioral and Social Sciences** Human and animal behavior; social and community relationships - psychology, sociology, anthropology, archaeology, ethnology, linguistics, learning, perception, urban problems, reading problems, public opinion surveys, educational testing, etc.

**Biochemistry** Chemistry of life processes - molecular biology, molecular genetics, enzymes, photosynthesis, blood chemistry, protein chemistry, food chemistry, hormones, 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.

**Computer Science/Mathematics** Study and development of computer hardware, software engineering, Internet networking and communications, graphics (including human interface), simulations/virtual reality or computational science (including data structures, encryption, coding and information theory.) Development of formal logical systems or various numerical and algebraic computations, and the application of these principles - calculus, geometry, abstract algebra, number theory, statistics, complex analysis, probability.

**Earth and Space Sciences** Geology, mineralogy, physiography, oceanography, meteorology, climatology, astronomy, speleology, seismology, geography, etc.

**Engineering** Judging for Engineering projects is slightly different from other Categories. Technology; projects that directly apply scientific principles to manufacturing and practical uses - civil, mechanical, aeronautical, chemical, electrical, photographic, sound, automotive, marine, heating/refrigerating, transportation, environmental engineering, etc.

**Environmental Science** Study of pollution (air, water and land) sources and their control; ecology.

**Medicine and Health** Study of diseases and health of humans and animals - dentistry, pharmacology, pathology, ophthalmology, nutrition, sanitation, pediatrics, dermatology, allergies, speech and hearing, etc.

**Microbiology** Biology of microorganisms - bacteriology, virology, protozoology, fungi, bacterial genetics, yeast, etc.

**Physics** Theories, principles, and laws governing energy and the effect of energy on matter - solid state, optics, acoustics, particle, nuclear, atomic, plasma, superconductivity, fluid/gas dynamics, thermodynamics, semiconductors, magnetism, quantum mechanics, biophysics, etc.

**Plant Sciences** Study of plant life - agriculture, agronomy, horticulture, forestry, plant taxonomy, plant physiology, plant pathology, plant genetics, hydroponics, algae, etc.

**Product Science** (Junior Division Only): Comparison and testing of commercial off-the-shelf products for quality and/or effectiveness for intended use in real-world consumer-oriented applications.

Project ID and Title Must Be At The Top of The Board

1. INTRODUCTION - What is your research question?

- Explain what is known or has already been done in your research area. Include a brief review of relevant literature. If this is a continuation project, a brief summary of your prior research is appropriate here. Be sure to distinguish your previous work from this year's project.
- What were you trying to find out? Include a description of your purpose, your research question, and/or your hypothesis.

2. METHODS - Explain your methodology and procedures for carrying out your project in detail.

- What did you do? What data did you collect and how did you collect that data? Discuss your control group and the variables you tested.
- DO NOT include a list of materials.

3. RESULTS - What were the result(s) of your project?

- Include tables and figures which illustrate your data.
- Include relevant statistical analysis of the data.

4. DISCUSSION - What is your interpretation of these results?

- What do these results mean? Compare your results with theories, published data, commonly held beliefs, and expected results.
- Discuss possible errors. Did any questions or problems arise that you were not expecting? How did the data vary between repeated observations of similar events? How were results affected by uncontrolled events?

5. CONCLUSIONS - What conclusions did you reach?

- What do these results mean in the context of the literature review and other work being done in your research area? How do the results address your research question? Do your results support your hypothesis?
- What application(s) do you see for your work?

6. REFERENCES

- This section should not exceed one page. Limit your list to the most important references.
- List the references/documentation used which were not of your own creation (i.e., books, journal articles).