2007-2008 New York City Metro Junior Science and Humanities Symposium

JSHS CATEGORIES OF COMPETITION

The organization of the final six (6) sessions at the National JSHS is based upon a review of all abstracts and the area of research suggested by the student. Student presenters must state on the abstract the major discipline and the sub-discipline of their research. The six (6) major disciplines in which awards will be made are:
Environmental science; Earth and Space Science
Engineering
Physical Sciences, including chemistry, physics, and astronomy
Life sciences
Medicine and Health; Behavioral and Social Sciences
Mathematics and Computer Science

The categories are further defined to assist students in choosing categories of competition and to better align judges in the proper sessions. Regional symposia may or may not choose to use these descriptive categories at the regional competition.

1. ***Environmental science; Earth and Space Science***
Earth and space
Climatology, meteorology
Geochemistry
Geophysics
Planetary science
Tectonics

Environmental science
Environmental analysis-Pollution (air, soil, water) Environmental management, including bioremediation, ecosystems, land resource management, recycling, waste management)

2. Engineering
Aerospace and aeronautical engineering Bioengineering (consider Medicine & Health)
Chemical engineering
Civil engineering
Electrical engineering (consider Mathematics and computer science)
Energy (consider multiple categories dependent upon research question)
Industrial engineering
Materials engineering (consider Physical sciences—chemistry) Robotics Software engineering

3. *Physical Sciences, including chemistry, physics, and astronomy*

Physics and astronomy
Astronomy
Physics-solid state, acoustics, electromagnetism, optics, particle, nuclear, atomic, plasma, superconductivity, fluid and gas Theoretical physics, Theoretical or computational astronomy

Chemistry
Analytical chemistry
Inorganic chemistry
Organic chemistry (other than biochemistry) Physical chemistry
Chemistry-materials, plastics, fuels, metallurgy

4. Mathematics and computer science –

Mathematics
Mathematics-theoretical
Mathematics-applied
Probability and statistics

Computer science
Algorithms, databases
Artificial intelligence
Networking and communications
Software engineering
Computer systems

5. Medicine and health/Behavioral sciences (includes study of diseases, pharmacology, physiology, pathology

Medicine & Health
Diseases, study of and molecular biology of diseases
Epidemiology
Genetics
Physiology,
Pathophysiology
Pharmacology
Biochemistry
General biochemistry
Chemistry of life processes – metabolism, molecular biology, molecular genetics,

enzymes, blood chemistry, protein chemistry, food chemistry, hormones

Behavioral sciences
Cognitive psychology
Developmental psychology
Physiological psychology
Sociology

6. Life sciences, including general biology (i.e. animal sciences, plant sciences, ecology) and molecular/cellular, biochemistry, genetics

Biochemistry—Structural biochemistry
Microbiology – biology of microorganisms – bacteriology, virology, protozoology, fungi, bacterial, genetics, yeast, Molecular/cellular—including genetics, immunology

General biology
Animal science (developmental biology, ecology, genetics, pathology, physiology) Plant science (developmental, ecology,
Genetics, photosynthesis, plant physiology)
Pollution and impact upon ecosystems