2010 NATIONAL SCIENCE OLYMPIAD – NATIONAL SCIENCE STANDARDS ALIGNMENT

C (Senior High) Division

C EVENTS	NATIONAL STANDARD
ANATOMY AND PHYSIOLOGY – This event encompasses the anatomy and physiology of selected body systems, this year limited to skeletal, muscular and endocrine systems.	M.C.1 – Structure and function in living systems H.F.1 – Personal and community health
ASTRONOMY – Students will demonstrate an understanding of the basic concepts of mathematics and physics relating to galaxies.	H.D.4 – Origin and evolution of the universe
CELL BIOLOGY – This event is a lab-oriented competition integrating content knowledge and process skills in the areas of cell biology and biochemistry.	H.C.1 – The cell
CHEMISTRY LAB – Teams will answer a series of questions or complete a task involving the science processes of chemistry focused in the areas of kinetics and aqueous solutions.	H.B.3 – Chemical reactions
DISEASE DETECTIVES – Students will use their investigative skills in the scientific study of disease, injury, health, and disability in populations or groups of people with a focus on the effects of population growth on public health outcomes.	H.F.1 – Personal and community health H.F.2 – Population growth H.G.1 – Science as a human endeavor
DYNAMIC PLANET – Students will use process skills to complete tasks related to earthquakes and volcanoes.	M.D.1 – Structure of the earth system H.D.1 – Energy in the earth system
ECOLOGY – Students will answer questions involving content knowledge and process skills in the area of ecology and adaptation in featured North American biomes.	H.C.4 – Interdependence of organisms H.C.5 – Matter, energy, and organization in living systems
EGG-O-NAUT – Teams will design, construct, and launch rockets to stay aloft and carry a raw egg without breaking.	H.E.1 – Abilities of technological design
ELEVATED BRIDGE – The objective of this event is to design and build the most efficient bridge meeting the design specifications.	H.E.1 Abilities of technological design
ENVIRONMENTAL CHEMISTRY – This event will focus on soil chemistry related to environmental chemistry.	H.F.4 – Environmental quality
EXPERIMENTAL DESIGN – This event will determine a team's ability to design, conduct, and report the findings of an experiment actually conducted on-site.	H.A.1 – Abilities necessary to do scientific inquiry
FORENSICS – Given a scenario and some possible suspects, students will perform a series of tests. These tests, along with other evidence or test results will be used to solve a crime.	H.A.1 – Abilities necessary to do scientific inquiry H.U.2 – Evidence, models, and explanation
FOSSILS – Teams will demonstrate their knowledge of ancient life by completing selected tasks at a series of stations. Emphasis will be on fossil identification and ability to answer questions about classification, habitat, ecologic relationships, behaviors and use of fossils to data and correlate rock units.	M.D.2 – Earth's history H.D.3 – Origin and evolution of the earth system
IT'S ABOUT TIME – Students will use a non-electrical device, which they have constructed prior to the tournament, to measure time intervals between 10 and 300 seconds. They will also be able to answer questions about issues such as the concept of time, timekeeping, astronomy, physics, and mechanics.	H.E.1 – Abilities of technological design
MISSION POSSIBLE – Prior to the competition, the participants will design, build, test and document a "Rube Goldberg®-like Device" that completes a required Final Task using a sequence of consecutive tasks.	H.E.1 – Abilities of technological design
MOUSETRAP VEHICLE – Teams will design, build, and test a vehicle that uses one or two snap mousetraps as the sole propulsion energy source to travel a distance and return to the starting line center as quickly as possible.	H.E.1 – Abilities of technological design

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ORNITHOLOGY – This event will test knowledge of North American birds on the official list.	H.C.3 – Biological evolution
PHYSICS LAB – Teams will demonstrate physics laboratory skills related to selected topics including wind power and alternative energy. Teams will build a blade assembly used to capture wind power and generate voltage.	H.B.5 – Conservation of energy and increase in disorder H.E.1 – Abilities of technological design H.F.6 – Science and technology in local, national, and global challenges
PICTURE THIS – The objective is to have team members take turns drawing representations of a set of scientific terms/concepts as the other team member(s) guess the term being drawn.	H.A.1 – Abilities necessary to do scientific inquiry
REMOTE SENSING – Participants will use remote sensing imagery, science, and mathematical process skills to complete tasks related to an understanding of the causes and consequences of human interaction with forest biomes.	H.C.4 – Interdependence of organisms H.U.2 – Evidence, models, and explanation
TECHNICAL PROBLEM SOLVING – Teams will be required to gather and process data to solve a given problem. Intermediate measurements and calculations may be required.	H.A.1 – Abilities necessary to do scientific inquiry
TRAJECTORY – Teams will design, construct, calibrate, and shoot a device capable to launching a ball into a target area and collect data to develop a series of graphs relating launch configuration to target distance and heights.	H.E.1 – Abilities of technological design
WRITE IT/DO IT – This event will test a competitor's ability to effectively communicate with a colleague in writing by having their partner construct a device from a written description.	H.E.1 – Abilities of technological design