

## 2011 NATIONAL SCIENCE OLYMPIAD – NATIONAL SCIENCE STANDARDS ALIGNMENT

### B (Middle School) Division

B EVENTS	NATIONAL STANDARD
<b>Anatomy</b> – Teams will be tested on their knowledge of anatomy and health concepts including respiratory and muscular systems.	M.C.1 – Structure and function in living systems M.F.1 – Personal health
<b>Awesome Aquifers</b> – Students will construct an aquifer and answer questions about groundwater concepts - includes a presentation.	M.D.1 – Structure of the earth system M.U.2 – Evidence, models, and explanation
<b>Battery Buggy</b> – Teams will construct a vehicle that uses electrical energy as its sole means of propulsion, quickly travels a specified distance, and stops as close as possible to the center of the finish line.	M.E.1 – Abilities of technological design
<b>Bottle Rockets</b> – Prior to the tournament, teams construct up to 2 rockets designed to stay aloft for the greatest amount of time.	M.E.1 – Abilities of technological design
<b>Can't Judge a Powder</b> – Students will test and characterize one pure substance and then, based only on data they collect, answer a series of questions about that substance.	M.B.1 – Properties and changes of properties in matter
<b>Compute This</b> – Teams will be presented with a problem which requires quantitative data capture from the Internet and the presentation of data in a graphical format.	M.A.1 – Abilities necessary to do scientific inquiry
<b>Crime Busters</b> – Teams will identify the perpetrators of a crime or crimes by using paper chromatography and analysis of unknown solids, liquids, and plastics found at the scene of a crime.	M.A.1 – Abilities necessary to do scientific inquiry M.B.1 – Properties and changes of properties in matter
<b>Disease Detectives</b> – This event requires students to apply principles of epidemiology to a published report of a real-life health situation or problem. (Food Borne Illness)	H.F.1 - Personal and community health H.G.1 - Science as a human endeavor
<b>Dynamic Planet</b> – Teams will work at stations that display a variety of earth science materials and related earth science questions. (Earth's Fresh Waters)	M.D.1 – Structure of the earth system
<b>Ecology</b> – Students will answer questions involving content knowledge and process skills in the area of ecology and adaptation by examining different ecosystems. (Tundra/Taiga)	M.C.4 – Populations and ecosystems
<b>Experimental Design</b> – Given a set of unknown objects, teams will design, conduct, analyze and write-up an experiment.	M.A.1 – Abilities necessary to do scientific inquiry
<b>Fossils</b> – Students will identify, describe, and classify various specimens.	M.D.2 – Earth's history H.D.3 – Origin and evolution of the earth system
<b>Junkyard Challenge</b> – Students will partially pre-construct an device with final construction and adaptation onsite to complete a published challenge.	M.E.1 – Abilities of technological design
<b>Meteorology</b> – This event involves the use of process skills as applied to meteorology (Severe Storms).	M.D.1 – Structure of the earth system H.D.1 – Energy in the earth system
<b>Microbe Mission</b> – Teams will answer questions, solve problems and analyze data pertaining to microbes.	H.C.1 – The cell
<b>Optics</b> – Teams compete in activities and answer questions related to geometric and physical optics.	M.B.3 – Transfer of Energy H.B.6 – Interactions of energy and matter
<b>Ornithology</b> – This event will test knowledge of North American birds on the official list.	H.C.3 – Biological evolution
<b>Road Scholar</b> – Requires the accurate interpretation and understanding of various map features using a variety of road and topographic maps.	M.U.2 – Evidence, models, and explanation
<b>Shock Value</b> – Students will compete in activities involving basic understanding of electricity, magnetism and simple electrical devices.	M.B.3 – Transfer of Energy
<b>Solar System</b> – Teams will demonstrate knowledge of the Sun, planets and their satellites, dwarf planets, comets, asteroids, the asteroid belt, meteoroids, Oort Cloud and the Kuiper Belt.	M.D.3 – Earth in the solar system
<b>Storm the Castle</b> – Prior to the tournament, teams design, construct and calibrate a device that uses only the energy of a falling counterweight to launch a projectile as far and as accurately as possible.	M.E.1 – Abilities of technological design
<b>Towers</b> – Team members design and build the most efficient tower.	M.E.1 – Abilities of technological design
<b>Write It/Do It</b> – A technical writing exercise where students write a description of a contraption and other students will attempt to recreate it using only the written description.	M.E.1 – Abilities of technological design

