

**2013 NATIONAL SCIENCE OLYMPIAD – NATIONAL SCIENCE STANDARDS ALIGNMENT**

**C (SENIOR HIGH SCHOOL) DIVISION**

<b>C EVENTS</b>	<b>NATIONAL STANDARD</b>
<b>Anatomy and Physiology</b> – This event encompasses the anatomy and physiology of selected body systems, this year limited to neurons, excretory, and digestive systems.	M.C.1 – Structure and function in living systems H.F.1 – Personal and community health
<b>Astronomy</b> – Students will demonstrate an understanding of the basic concepts of math and physics relating to stellar evolution and Type Ia supernovas.	H.D.4 – Origin and evolution of the universe
<b>Booilever</b> – Students will design and build the most efficient booilever.	H.E.1 – Abilities of technological design
<b>Chem Lab</b> – Students will demonstrate chemistry laboratory skills related to periodicity and oxidation/reduction.	H.B.3 – Chemical reactions H.B.2 – Structure and properties of matter
<b>Circuit Lab</b> – Students will compete in activities involving knowledge of direct current (DC) Electrical Circuits. The event may include hands-on experimentation and/or problem solving. Students may use nonprogrammable calculators.	H.U.2 – Evidence, models, and explanation
<b>Designer Genes</b> – Students will solve problems using Molecular Genetics and Biotechnology	H.C.2 – Molecular basis of heredity
<b>Disease Detectives</b> – This event requires students to apply principles of epidemiology to a real-life health situation or problem with a focus on environmental quality.	H.F.1 – Personal and community health H.G.1 – Science as a human endeavor
<b>Dynamic Planet</b> – Students will work at stations that display a variety of Earth science materials related to Earth's glaciation and long-term climate change.	M.D.1 – Structure of the Earth system
<b>Elastic Launched Glider</b> – Students will build a glider to achieve the maximum time aloft	H.E.1 – Abilities of technological design
<b>Experimental Design</b> – Given a set of objects, teams will design, conduct, analyze and write-up an experiment.	H.A.1 – Abilities necessary to do scientific inquiry
<b>Fermi Questions</b> – Students will estimate quantities which are difficult of impossible to measure.	H.A.1 – Abilities necessary to do scientific inquiry
<b>Forensics</b> – Students will identify polymers, solids, fibers, and other materials in a crime scenario.	H.A.1 – Abilities necessary to do scientific inquiry H.U.2 – Evidence, models, and explanation
<b>Forestry</b> – This event will test knowledge of North American trees on the official list.	H.C.3 – Biological evolution
<b>Gravity Vehicle</b> – Students will design, build, and test a vehicle that uses gravitational potential energy as the sole propulsion energy source to reach a target point.	H.E.1 – Abilities of technological design
<b>MagLev</b> – Students will construct two self-propelled magnetically-levitated vehicles which will move down a magnetic track.	H.E.1 – Abilities of technological design
<b>Materials Science</b> – Students will answer questions or complete talks involving the science process of chemistry focused in the areas of Materials Science.	H.B.2. – Structure and properties of matter
<b>Remote Sensing</b> – Students use maps and remote sensing technology to explain Earth's hydrosphere.	H.C.4 – Interdependence of organisms H.U.2 – Evidence, models, and explanation
<b>Robot Arm</b> – Students will design and construct a robot that will move items.	H.E.1 – Abilities of technological design
<b>Rocks and Minerals</b> – Students will identify, describe, and classify various specimens.	M.D.1 – Structure of the Earth system
<b>Tech Problem Solving</b> – Students will gather and process data to solve problems.	H.A.1 – Abilities necessary to do scientific inquiry
<b>Thermodynamics</b> – Students will design and build a device to retain heat.	M.E.1 – Abilities of technological design
<b>Water Quality</b> – Students will evaluate aquatic environments.	H.A.1 – Abilities necessary to do scientific inquiry
<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.	H.E.1 – Abilities of technological design