2013 NATIONAL SCIENCE OLYMPIAD – NATIONAL SCIENCE STANDARDS ALIGNMENT

B (MIDDLE SCHOOL) DIVISION

B EVENTS	NATIONAL STANDARD
Anatomy – Students will be tested on their knowledge of anatomy and health concepts of the nervous and digestive systems.	M.C.1 – Structure and function in living systems M.F.1 – Personal health
Boomilever – Students will design and build the most efficient boomilever.	M.E.1 – Abilities of technological design
Crime Busters – Students 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
Disease Detectives – 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
Dynamic Planet – Students will use process skills to complete tasks related to glaciation and long-term climate change.	M.D.1 – Structure of the Earth system
Experimental Design – Given a set of objects, Students will design, conduct, analyze, and write up an experiment.	M.A.1 – Abilities necessary to do scientific inquiry
Food Science – Students will use their understanding of the chemistry of baking ingredients to answer questions at a series of stations.	M.B.1 – Properties and changes of properties in matter
Forestry – This event will test knowledge of North American trees on the official list.	H.C.3 – Biological evolution
Helicopters – Teams will construct and fly free flight rubber-powered helicopters to achieve maximum flight times.	M.E.1 – Abilities of technological design
Heredity – Students will solve problems and analyze data using the basic principles of genetics.	H.C.2 – Molecular basis of heredity
Keep the Heat – Students will construct a device to retain heat.	M.E.1 – Abilities of technological design
Meteorology – Students will demonstrate an understanding of basic meteorological principles.	M.D.1 – Structure of the Earth system H.D.1 – Energy in the Earth system H.D.3 – Origin and evolution of the Earth system
Metric Mastery – Students will estimate and measure objects in metric units.	M.U.3 – Change, constancy, and measurement
Mission Possible – Students will design, build, and test one "Rube Goldberg® like device" that completes a required Final Task.	M.E.1 – Abilities of technological design
Mousetrap Vehicle – Students will construct a vehicle that uses one mousetrap as its sole means of propulsion to reach a target as close as possible to their predicted time.	M.E.1 – Abilities of technological design
Reach for the Stars – Students will demonstrate knowledge of properties and evolution of stars, open and globular clusters, and star forming galaxies.	H.D.4 – Origin and evolution of the universe
Road Scholar – Students will interpret various map features using a variety of road and topographic maps.	M.U.2 – Evidence, models, and explanation
Rocks and Minerals – Students will identify, describe, and classify various specimens.	M.D.1 – Structure of the Earth system
Rotor Egg Drop – Students will construct an unpowered helicopter device to safely transport a chicken egg from a specified height.	M.E.1 – Abilities of technological design
Shock Value – Students will compete in activities involving electricity, magnetism, and simple electrical devices.	M.B.3 – Transfer of Energy
Sounds of Music – Prior to the competition, students will build one wind instrument and one percussion instrument based on a 12 tone tempered scale describe the principles behind their operation, and be able to perform a major scale, a required melody, and a chosen melody with each.	H.E.1 – Abilities of technological design
Water Quality – Students will evaluate aquatic environments.	M.A.1 – Abilities necessary to do scientific inquiry
Write It/Do It – 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