**Science Olympiad Information - Middle School**

State website: [www.gascioly.org](http://www.gascioly.org) National website: [www.soinc.org](http://www.soinc.org)

**Georgia State Science Olympiad Team Registration – Due by October 1, 2016.**

* <http://www.gascioly.org/middle--high.html>
* Regular Registration OPEN 8/8/2016 to 10/1/2016 or until the maximum team capacity is reached; whichever occurs first. See website for first time discount and regular team participation fees and late registration info.

**Grants** may be available for teams that have an active **Lockheed Martin Employee** helping their team.

* The LM employee fills out an application at work on the corporate engineering STEM website.

**Dodgen Student-Coach Workshop – Saturday October 22, 2016**

* Middle school students and their coaches will get a jump start on learning about multiple Science Olympiad events at this workshop.
  + Sessions to date include: Experimental Design, Meteorology, Wright Stuff, Fast Facts, Write it Do it, Mission Possible, Hovercraft, and Engineering Careers for students & teachers to attend, and for the coaches - How to coach a new team, and a Coach Roundtable session for new and experienced coaches to share ideas.
* **Register by October 8**
* Registration
  + Email Kathy Jacobson at [pkjacobson@outlook.com](mailto:pkjacobson@outlook.com)
* Cost – Free
* Attendees
  + Event classes - 2 students and 1 coach per event
  + Road Scholar class - Unlimited number of students & coaches
  + New Coach class – this is for head coaches & leadership team
  + Coach roundtable – for head coaches & leadership team

**Dodgen Middle School Invitational Tournament – Saturday, January 21, 2017**

* + Registration opens in October. Check <http://www.ccsdscience.com/middle-school-science-olympiad.html>
  + Email Kathy at [pkjacobson@outlook.com](mailto:pkjacobson@outlook.com) for additional information
  + Cost $75 per team (A few scholarships are available)
  + 1 team per school unless extra space becomes available
* Schools will receive copies of most tests & answer keys. These can be used by the school for team development.
* Experienced Science Olympiad teams will write / proctor / score the tests.

**Science Olympiad 2016-2017 B EVENT DESCRIPTIONS**

**Anatomy and Physiology** Understand the anatomy and physiology of the following human body systems - Nervous system, Sense Organs, Endocrine System

**Bottle Rockets** Prior to the tournament, teams construct up to two rockets designed to stay aloft for the greatest amount of time while carrying a raw Grade A large Chicken egg that survives impact.

**Crime Busters**- 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.

**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 food borne illness.

**Dynamic Planet** - Students will demonstrate an understanding of the large-scale processes affecting the structure of Earth's crust (Tectonics).

**Experimental Design**- This event will determine a team’s ability to design, conduct, and report the findings of an experiment actually conducted on site.

**Ecology-** Students will answer questions involving content knowledge and process skills in the area of ecology and adaptations in featured North American biomes

**Fast Facts-** Teams will fill in a grid of terms that begin with a given letter to match given science categories

**Food Science** – Students will answer questions about the chemistry of food and food grains and build a simple calorimeter to determine the energy content of a solid foodstuff.

**Hovercraft-** Competitors may construct a self-propelled air-levitated vehicle with up to two battery-powered motors that turn one propeller each to levitate and move the vehicle down a track. Competitors must also be tested on their knowledge of classic mechanics and related topics.

**Invasive Species-** Test student knowledge of invasive species in local and national ecosystems.

**Meteorology**- This event emphasizes understanding of basic meteorological principles with emphasis on interpretation and analysis of meteorological data with a severe storms focus.

**Microbe Mission-** Teams will answer questions, solve problems and analyze data pertaining to microbes

**Mission Possible**- Prior to the competition, competitors will design, build, test, and document a Rube Goldberg ® - like device that completes a required task through a series of simple machines.

**Optics-** Teams must participate in an activity involving positioning mirrors to direct a laser beam towards a target. Teams must also be tested on their knowledge of geometric and physical optics.

**Reach for the Stars-** Students will demonstrate an understanding of the properties and evolution of stars especially star forming regions and supernova remnants and their observation with different portions of the electromagnetic spectrum.

**Road Scholar**- Teams will answer interpretative questions that may use one or more state highway maps, USGS topographic maps, Internet-generated maps, a road atlas or satellite/aerial images.

**Rocks and Minerals-** Teams will demonstrate their knowledge of rocks and minerals.

**Scrambler**- Prior to the competition, competitors must design, build, and test one mechanical device, which uses the energy from a falling mass to transport an egg along a track as quickly as possible and stop as close to the center of a Terminal Barrier without breaking the egg.

**Towers-** Prior to the competition, teams will design and build a Tower meeting requirements specified in the rules to achieve the highest structural efficiency.

**Wind Power-** Teams will build a blade assembly that consists of any kind of propeller/pinwheel/rotor attached to a compact disk (CD), which will be used to capture wind power. Students will also be tested on their knowledge regarding alternative energy.

**Wright Stuff-** Prior to the competition, teams design, construct and test free flight rubber-powered monoplanes to achieve maximum time aloft.

**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.