About Science Olympiad at GACS

What is Science Olympiad?

Science Olympiad is an international program devoted to improving the quality of science education, increasing student interest in science, and providing recognition for outstanding achievement in science education. These goals are accomplished through preparation for and participation in regional, state and national tournaments. As a "model program in the National Science Standards," Science Olympiad encourages and recognizes up-and-coming science and technology leaders. Over 2,500,000 students nationwide participate in the U.S. Science Olympiad. Just in Georgia, there are over 350 schools and thousands of students that participate, and that number is increasing steadily. The program has four divisions. While younger students compete in-school and locally, both Division B (6^{th} – 9^{th} graders) and Division C (10^{th} – 12^{th} graders) teams compete at regional, state and national competitions.

A Science Olympiad team consists of 15 "competing" team members. For B division, no more than five competing team members can be 9^{th} graders. There are 23 different events, and each event group is generally composed of two students. A typical tournament schedule has only five time slots so each team member can expect to compete in several different events with different combinations of their teammates. The 23 regular events cover all of the sciences as well as some engineering and communication skills. Events can be either "device" events that require building something prior to or at the tournament, "process skills" events or "knowledge" events in various fields of science. Many of the events are formatted like popular board games, TV shows, and athletic games.

Approximately 25% of the events are changed or replaced each year to keep the program fresh. The rules are written to allow for a great deal of creativity in how devices are designed and built as well as how knowledge events are prepared for. There are often optional "trial" events offered. Medals and ribbons are awarded for all events, but only the regular events count toward team performance in determining trophies and invitations to the State Tournament. In Georgia, all regional and state tournaments are held on Saturdays at a college or university campus.

The division B and C levels are elements of a national program. Teams in these divisions compete at a regional tournament. The top 20% (approximately) of the teams from each regional tournament are invited to compete at the state tournament. The top two teams from each state in each division are then invited to the National Tournament.

For further information and details about Science Olympiad, please visit the official web site for the national organization at www.soinc.org or the Georgia web site at http://www.gsu.edu/webprj01/adm/wwwgso/public_html/index.html.

Why participate in Science Olympiad?
Through participation in Science Olympiad students receive rich academic as well as extra curricular experiences. Science Olympiad relates to and enriches what students are learning and doing in their science classes by providing a balance between knowledge of facts, concepts, processes, skills, and applications covering all areas of science plus math, technology and engineering. Another benefit for students planning to go into a science related program of study at the college level is the broadening of their science experiences, plus, participation in Science Olympiad is quite a positive to include on a student's college applications. Science Olympiad provides a very rich experience for students of very diverse backgrounds, personalities, and interests to work together in achieving a common goal. And, last but not least, a great reason to participate is because it is lots of fun!!

What sort of commitment is involved in being a team member?
Participation on the Science Olympiad Team is an honor as well as a commitment of time and self. Team members must select the Science Olympiad class as one of their electives for the year. The Science Olympiad class enables our team to be much better prepared to compete against some of the best teams in the state and in the nation (which happen to come from GA). Also, by attending the class, the amount of outside-of-school time will be greatly reduced as well as allowing students to participate in other activities with their peers on Thursdays during lunch and club time. As expected when participating on any team, Science Olympiad team members are expected to be dedicated and to make the work and time commitments necessary to fulfill their responsibilities and obligations to the team. Depending upon the particular events that a student is participating in, this may involve study, research, and/or device construction, as well as individual and event team preparation. For device events, groups often get together outside of school time to build and test their devices.

We work for nearly six months in preparation for and anticipation of only **two tournaments**. For that reason, it is imperative that members of the team and their parents commit to and schedule their family calendar in order to participate; otherwise, there is little reason to be on the team. Both tournaments are on Saturdays and take the better part of the day. The Region Tournament is typically the last Saturday of February or the first Saturday in March. We will not know the exact date and location until the announcement and assignments are made in late November at which time we will immediately notify our team members and their families. If we place well at Region (as we have every year), we will be invited to compete in the State Tournament usually the third or fourth Saturday in March at Augusta State University. NOTE: A student who cannot attend the Region and State Tournaments but who really wants to take part in the Science Olympiad experience may be considered for the class if space is available.

Each team member must pay non-refundable annual dues of $20 and purchase a team shirt (about $22.00). Other expenses that students and their families will incur include

such things as transportation to tournaments, meals, hotel (for out of town tournaments), as well as some supplies and materials for specific events, etc.

What role do parents play in a successful Science Olympiad Team?
Because of the magnitude of the program (23 different events to prepare for), our success is very dependent upon the commitment and involvement of parents and other volunteer adults. There are many different needs and levels of involvement; however every parent is needed and expected to be involved in some capacity. The Parent Commitment Form lists numerous ways in which adult volunteers, especially our parents, can be involved. Many of these jobs take only a little time or they are short-term. Division B students are dependent upon their parents for transportation and certainly for encouragement and support in this challenging endeavor. Parent help is a vital part of our ability to function smoothly at the tournaments. Parent support is so important that without it, we would not even be able to have a team.

An event coach is an adult – a parent, teacher, college student, community member – who has an interest in encouraging and supporting the students and who may or may not have some knowledge or expertise to offer as a resource person relating to the particular event. These adults serve as mentors and guides, but they never do the work for the students. Jobs such as event coaches are on-going and require a greater commitment of time. However, the parents who have been involved as event coaches have found it to be very rewarding and enjoyable to be able to work with their own children and/or other students in these small "event" groups. Our goal is to have one coach for each of our 23 events.

As should be evident from the proceeding, in every sense of the word, Science Olympiad is all about team and teamwork.

If there are more than 15 students on our team, who gets to participate at the competitions?
Ideally, our team will be composed of about 20 students. The 15-member competition team will be determined by several factors including: grade level (older students get priority), specific needs and who is best prepared to meet them, the tournament schedule, over all effort and time invested in preparing for competition (a record will be kept), and the decision of the coaches. While every team member is expected to attend the tournament/s, only the 15-member competition team will actually compete in the events. All other members will be classified as "alternates". Alternates will be encouraged to prepare for and to compete in the trial events, and need to be prepared to go in place of a competing member who may suddenly become unable to attend due to illness or family emergency.

How do I become a member of the team?
A Science Olympiad Team member must possess many qualities including, of course, a fascination with, and a passion and love for learning science. In addition a team member must also be self-disciplined and self-motivated, have great determination and perseverance, be able to communicate well, able to follow directions well, have an insatiable desire to learn, an inquiring mind, a positive attitude, possess some degree of competitiveness, and be a cooperative team player.

If, after you and your parent/s have read over this information plus the information on the web sites given on page two and have given careful consideration to the responsibility and commitment involved, you want to participate, then you should complete the application and return it Friday August 18, 2006

The information you provide about yourself on your application and the information provided on the four teacher referral forms will be used in helping to determine whether you would be a good candidate for participation on the team. If you are selected, you will receive a written invitation that you must sign and return along with a check made payable to GACS for the annual dues of $20.

A Brief Description of the 2004 Events
So that you will have some idea of what the events are like, below is a list and brief description of the 2004 events that our team competed in. Some of the events for the coming year will remain the same with minor changes while others have been or will be replaced with new events. A complete list for 2006 will not be available until sometime in September.

* device event ** process/skills event *** knowledge event

1. Astronomy*** – demonstrate understanding and knowledge of space science topics
2. Bottle Rocket***** – design, build, and launch a water / air powered rocket
3. Bridge Building***** – design and build the lightest weight bridge that can hold the greatest load
4. Can't Judge a Powder By Its Color******* – using science process skills to test an unknown substance
5. Dynamic Planet: Rivers and Lakes*** – using science process skills to solve problems related to Earth Science topics
6. Naked Egg Drop* – design a container into which a raw egg can be dropped from increasing heights without breaking
7. Experimental Design** – demonstrate ability to design, conduct and report the findings of an experiment
8. Forestry*** demonstrate knowledge of taxonomic keys, habitats, life history and

geographic distribution

9. Fossils*** – identify fossils, infer their environment, determine the geologic period, demonstrate an understanding of adaptations
10. Life Science Process Lab** – the testing of science process skills through the life sciences; knowledge content will be provided
11. Meteorology*** – relating weather and climate; making inferences, interpreting data, making predictions
12. Metric Measurement** – demonstrate an intuitive ability for estimating and then the ability to measure using metric units and tools
13. Mission Possible* – design, build, test and document a "Rube Goldberg- like" device
14. Picture This** – similar to the game "Pictionary" except science terms are used
15. Road Scholar*** – using and interpreting highway maps and topographical maps
16. Robo Billiards* – design and build a single robot capable of placing a billiard ball into a "pocket"
17. Science Crime Busters** – use forensic skills to determine the perpetrator of a crime
18. Science of Fitness*** – exercise physiology problems require fitness knowledge and measurement skills
19. Storm the Castle* design, construct, calibrate and operate a device capable of launching a projectile as far as accurately as possible using only the energy of a falling counterweight
20. Water Quality** – requires a broad knowledge of water quality issues and problem solving
21. Wheeled Vehicle* construct and bring a "vehicle" to the competition that uses some sort of non-metallic elastic means of propulsion, etc.
22. Wright Stuff* – construct and test a propeller driven monoplane; winning plane stays up the longest
23. Write It / Do It **– one partner has to build a device from the other partner's written instructions

Who are the coaches?

Head Coach: Dr. Suzanne Bulter, subtler@greateratlantachristian.org
Assistant Head Coach: Mrs. JoAnn Waldrop, jwaldrop@greateratlantachristian.org
Coach and coordinator: Mrs. Dana Pritchett, dpritchett@greateratlantachristian.org