# Science Olympiad

## St. Charles (6th-8th)

**Frequency:** 1 practice per week, after school, November - March

**Cost:** $20 (covers state registration)

**COVID-19 Safety:** Masks are required and social distancing will be enforced. Students will work primarily with only one partner.

**Links:** For more information:

**National:** https://www.soinc.org/

**State:** https://ohso.osu.edu/

**Event Forums:** https://scioly.org/

## General Description

Science Olympiad is a team competition in which students compete in 23 events pertaining to various scientific disciplines, including genetics, earth science, chemistry, anatomy, physics, geology, mechanical engineering and technology. This school year, St. Charles will be limited to one team (15 students). Students must be available to attend the regional meet on March 20, 2021 in Piqua. We would like to participate in one additional meet that will almost certainly be virtual.

## Events

There are 23 events. These are the same events that were held last year. A brief explanation of each event can be found below. The build events (Boomilever, Elastic Launch Glider, Ping Pong Parachute, and Write It, Do It) will not be included in any virtual meets. Hopefully, the build events will be included in the regional meet.

## Going Forward

If your child would like to participate in Science Olympiad this year, please fill out this survey by November 2.

**https://forms.gle/v6vBeyLAkucGx1hE6**

If you or your child would like more information, please attend our informational Zoom meeting on Nov. 2 at 7:00pm. A link will be sent to the email provided. Please fill out the survey or send your email to triciaegan81@yahoo.com.

**ANATOMY AND PHYSIOLOGY**
Participants will be assessed on their understanding of the anatomy and physiology for the human Skeletal, Muscular and Integumentary systems.

**BOOMILEVER**
Teams will design and build a Boomilever meeting requirements specified in the rules to achieve the highest structural efficiency.

**CIRCUIT LAB**
Participants must complete tasks and answer questions about electricity and magnetism.

**CRIME BUSTERS**
Given a scenario, a collection of evidence, and possible suspects, students will perform a series of tests that along with other evidence will be used to solve a crime.

**DENSITY LAB**
Participants compete in activities and answer questions about mass, density, number density, area density, concentration, pressure and buoyancy.

**DISEASE DETECTIVES**
Participants will use investigative skills in the scientific study of disease, injury, health and disability in populations or groups of people.

**DYNAMIC PLANET**
Teams will complete tasks related to physical and geological oceanography.

**ELASTIC LAUNCHED GLIDERS**
Prior to the tournament teams design, construct, and test elastic launched gliders to achieve the maximum time aloft.

**EXPERIMENTAL DESIGN**
This event will determine a participant's ability on-site to design, conduct and report the findings of an experiment.

**FOOD SCIENCE**
Students will answer questions on food chemistry with a focus on fermentation and pickling. In addition, participants will build a salinometer/hydrometer capable of measuring salt compositions between 1-10% (mass/volume).

**FOSSILS**
Teams identify and classify fossils and demonstrate their knowledge of ancient life by completing tasks related to interpretation of past environments and ecosystems, adaptations and evolutionary relationships, and use of fossils in dating and correlating rock units.

**GAME ON**
This event will determine a team's ability to design and build an original computer game using the program Scratch incorporating the scientific theme provided to them by the supervisor.

**HEREDITY**
Participants will solve problems and analyze data or diagrams using their knowledge of the basic principles of genetics.

**MACHINES**
Teams will complete a written test on simple and compound machine concepts and construct a lever-based measuring device prior to the tournament to determine the ratio between two masses.

**METEOROLOGY**
This event emphasizes understanding of basic meteorological principles associated with severe weather with emphasis on analysis and interpretation of meteorological data, graphs, charts and images.

**MISSION POSSIBLE**
Prior to the competition, participants design, build, test and document a Rube Goldberg-like device that completes required Start and Final Actions through a series of specific actions.

**MOUSETRAP VEHICLE**
Teams design, build and test one vehicle using one mousetrap as its sole means of propulsion to reach a target as quickly and accurately as possible.

**ORNITHOLOGY**
Participants will be assessed on their knowledge of North American birds.

**PING-PONG PARACHUTE**
Prior to the tournament, teams will design, build and bring up to two bottle rockets to the tournament to launch a ping pong ball attached to a parachute to stay aloft for the greatest amount of time.

**REACH FOR THE STARS**
Students will demonstrate an understanding of the properties and evolution of stars and galaxies as well as their observation using different portions of the electromagnetic spectrum (e.g. Radio, Infrared, Visible, Ultraviolet, X-Ray and Gamma Ray).

**ROAD SCHOLAR**
Participants will answer interpretive questions that may use one or more state highway maps, USGS topographic maps, Internet-generated maps, a road atlas or satellite/aerial images.

**WATER QUALITY**
Participants will be assessed on their understanding and evaluation of marine and estuary aquatic environments.

**WRITE IT DO IT**
One student will write a description of an object and how to build it, and then the other student will attempt to construct the object from this description.