

## Spring Hill Science Olympiad Student Interest Form 2010

Student's Name \_\_\_\_\_

Student's Teacher \_\_\_\_\_

Student's Event Choices – (please number the events that interest you; put in order of preference):

### **2011 Division B Events**

The 2011 Division B events are listed below. For more information, click on an event title.

#### **LIFE, PERSONAL & SOCIAL SCIENCE**

Anatomy (Respiratory, Muscular)

Disease Detectives (Food Borne Illness)

Ecology (Tundra, Taiga)

Microbe Mission

Ornithology

#### **EARTH & SPACE SCIENCE**

Dynamic Planet (Earth's Fresh Waters)

Fossils

Meteorology (Severe Storms)

Road Scholar

Solar System

#### **PHYSICAL SCIENCE & CHEMISTRY**

Can't Judge a Powder

Crime Busters

Optics

Shock Value

Storm the Castle

#### **TECHNOLOGY & ENGINEERING**

Battery Buggy

Bottle Rocket

Junkyard Challenge

Towers

# INQUIRY & NATURE OF SCIENCE

Awesome Aquifers

Compute This

Experimental Design

Write It Do It

Parents' Names: \_\_\_\_\_

Home Email Address: \_\_\_\_\_

Home Phone: \_\_\_\_\_

Parent's Event Topic Choices to Lead (put in order of preference):

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

Please send completed form to Lan Fan – [fanlan@hotmail.com](mailto:fanlan@hotmail.com)



## **SPRING HILL SCIENCE OLYMPIAD TEAM**

### **2010-2011 EVENT DESCRIPTIONS**

**WWW.SOINC.ORG**

#### **2010 - 2011 Science Olympiad Event Descriptions.**

**The content and expectations are in general significantly more advanced for events in Division C than Division B. (B) refers to a Division B event (C) refers to a Division C event (B/C) the event is both Division B and C**

**Anatomy (B)** - Teams will be tested on their knowledge of anatomy and health concepts including respiratory and muscular systems.

**Anatomy & Physiology (C)** - This event encompasses the anatomy and physiology of selected body systems, this year limited to respiratory, muscular and endocrine systems.

**Astronomy (C)** - Teams will demonstrate an understanding of the basic concepts of math and physics relating to galaxies.

**Awesome Aquifers (B)** - Students will construct an aquifer and answer questions about groundwater concepts - includes a presentation.

**Battery Buggy (B)** - Teams will construct a vehicle that uses electrical energy as its sole means of propulsion, quickly travels a specified distance, and stops as close as possible to the center of the finish line.

**Bottle Rocket (B)** - Prior to the tournament, teams construct up to 2 rockets designed to stay aloft for the greatest amount of time.

**Can't Judge a Powder (B)** - Students will test and characterize one pure substance and then, based only on data they collect, answer a series of questions about that substance.

**Chemistry Lab (C)** - Teams will demonstrate chemistry laboratory skills related to selected topics.

**Compute This (B)** - Teams will be presented with a problem which requires quantitative data capture from the Internet and the presentation of data in a graphical format.

**Crime Busters (B)** - 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 Detective (B/C)** - This event requires students to apply principles of epidemiology to a published report of a real-life health situation or problem. (Food Borne Illness)

**Dynamic Planet (B/C)** - Teams will work at stations that display a variety of earth science materials and related earth science questions. (Earth's Fresh Waters)

**Ecology (B/C)** - Students will answer questions involving content knowledge and process skills in the area of ecology and adaptation by examining different ecosystems. (Tundra/Taiga)

**Experimental Design (B/C)** - Given a set of unknown objects, teams will design, conduct, analyze and write-up an experiment.

**Forensics (C)** - Students will identify polymers, solids, fibers, and other materials in a crime scenario.

**Fossils (B/C)** - Students will identify, describe, and classify various specimens.

**Helicopters (C)** - Students will construct and test free flight rubber-powered helicopters prior to the tournament to achieve maximum flight times.

**Junkyard Challenge (B)** - Students will partially pre-construct an device with final construction and adaptation onsite to complete a published challenge.

**Meteorology (B)** - This event involves the use of process skills as applied to meteorology (Severe Storms).

**Microbe Mission (B/C)** - Teams will answer questions, solve problems and analyze data pertaining to microbes.

**Mission Possible (C)** - Prior to the competition, participants will design, build, test and document a "Rube Goldberg-like device" that completes a required Final Task using a sequence of consecutive tasks.

**Mousetrap Vehicle (C)** - Teams will design, build and test a vehicle that uses one or two snap mousetraps as the sole propulsion energy source to travel a distance and return to the starting line center as quickly as possible.

**Optics (B/C)** - Teams compete in activities and answer questions related to geometric and physical optics.

**Ornithology (B/C)** - This event will test knowledge of North American birds on the official list.

**Protein Modeling (C)** - Students will use computer visualization and online resources to guide them in constructing physical models of proteins. For 2011, students will model proteins involved in reprogramming adult cells to become stem cells.

**Remote Sensing (C)** - Teams use maps and remote sensing technology to explain human impact on the Earth.

**Road Scholar (B)** - Requires the accurate interpretation and understanding of various map features using a variety of road and topographic maps.

**Shock Value (B)** - Students will compete in activities involving basic understanding of electricity, magnetism and simple electrical devices.

**Solar System (B)** - Teams will demonstrate knowledge of the Sun, planets and their satellites, dwarf planets, comets, asteroids, the asteroid belt, meteoroids, Oort Cloud and the Kuiper Belt.

**Sounds of Music (C)** - Prior to the competition, students will build one wind instrument and one percussion instrument based on a 12 tone tempered scale, prepare to describe the principles behind their operation and be able to perform a major scale, a required melody and a chosen melody with each.

**Storm the Castle (B)** - Prior to the tournament, teams design, construct and calibrate a device that uses only the energy of a falling counterweight to launch a projectile as far and as accurately as possible.

**Sumo Bots (C)** - Teams will design and construct a robot (bot) that will attempt to move an opponent's robot from the ring.

**Technical Problem Solving (C)** - Teams will gather and process data to solve problems.

**Towers (B/C)** - Team members design and build the most efficient tower.

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

**Write It/Do It (B/C)** - 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.