

## 2019 NCSO Elementary Event Descriptions

### **3, 2, 1, Blast Off!** (Science as Inquiry)

Prior to the tournament, teams construct two rockets designed to stay aloft for the greatest amount of time. Rockets are made from **2-liter** soda bottles and pressurized with air and water. In 2019, parachutes are allowed, and rockets will be launched at 60 psi.

### **Backyard Biologist** (1.E.2, 1.L.1, 2.L.1, 3.L.2, 6.L.1)

Teams will be assessed on their knowledge of living organisms that they may encounter in their own backyard. In 2019, the focus will be on trees, plants, and insects. Teams will be required to identify organisms from a provided list and know about the habitat and conditions required for growth of the organisms.

### **Body Builders** (3.L.1, 4.L.2, 5.L.1)

Teams will demonstrate knowledge of the major systems of the human body in terms of their functions necessary for human life.

### **Data Crunchers** (Measurement & Data, 5.P.1)

Data Science is an important part of an engineer or scientist's ability to understand the world around them. Teams should be able to create and interpret data tables, bar graphs, line graphs, pie charts, and pictographs and perform simple experiments to collect data, graph their results and make predictions.

### **Describe It, Build It** (Science as Inquiry)

Technical writing skills are an important part of an engineer or scientist's abilities to communicate precisely and clearly. This event will test a team's ability to effectively communicate by having one team member write a description of how to build a device and having his or her partner construct the device from raw materials using their partner's description.

### **Duct Tape Challenge** (Science as Inquiry)

Teams will arrive at the competition and be given a set of materials, including Duct Tape, and a task. They will then have a given amount of time to complete whatever task they are assigned, such as building the tallest tower, widest bridge, most buoyant boat, etc. The task parameters will be clearly outlined for the teams. At the end of the build time, teams will test their structures to determine the winner.

### **Ecology Experts** (3.E.2, 4.P.1, 5.L.2, 6.L.2)

Teams will be assessed on their knowledge of Marine, Freshwater, Estuary and Arctic ecosystems and biomes. Topics include but are not limited to the ecology of the biomes and the roles and interactions of living and nonliving things within them.

### **Energy Matters** (3.P.2, 3.P.3, 4.P.1, 4.P.2, 4.P.3, 5.P.2, 5.P.3)

Teams will be assessed on their knowledge of the physical properties of matter and the behavior of solids, liquids, and gases before and after they undergo changes or interactions as well as energy forms, transfer of energy, physical changes, and changes in states of matter due to heating and cooling.

**Metric Mania** (Measurement & Data, Geometry)

Teams will demonstrate their understanding of metric measurement by estimating and measuring length (meter), mass (gram), fluid volume (liter), angles, and temperature (Celsius) and making calculations based on these measurements.

**Pasta Tower** (Science as Inquiry)

The objective of this event is to design and build the lightest tower, constructed only of pasta and glue, with the greatest structural efficiency, capable of supporting a load of up to 10 kg.

**Planet Protectors** (4.L.1)

Teams will be assessed on their knowledge of human interaction with the earth, including interacting positively and negatively with the environment, resource use, and consequences of these interactions.

**ProGamers** (Information & Technology)

Teams of students will use the Scratch programming language to recreate a game being shown to them on a screen in the room.

**Ramp and Roll** (3.P.1, 5.P.1)

Teams will be given a challenge to complete in advance using only K'nex pieces. They must practice designs in advance but build on site.

**Rock Star** (3.E.2, 4.E.2, 4.P.2)

Teams will demonstrate their knowledge of rocks & minerals, the rock cycle and geologic maps.

**Science Sketchers** (Science as Inquiry)

Team members will take turns giving clues for a set of scientific terms or concepts from across all K-5 science and math objectives for their teammates to guess. Teams of up to 3.

**Sky Quest** (1.E.1, 3.E.1, 4.E.1)

Teams will be tested on their knowledge of the solar system. Topics include the sun, moon, planets, rotation and revolution, moon phases, seasons, and identification of constellations/stars based on a provided list.

**Super Sleuths** (3.P.2, 4.P.2, 5.P.2, Science as Inquiry)

Given a mystery scenario, evidence, and a list of possible suspects, teams will be expected to perform a series of tests to draw specific conclusions about the scenario and suspects. The test results along with other evidence will be used to solve the mystery of the scenario.

**Weather Permitting** – (K.E.1, 2.E.1, 5.E.1)

This event will test the team's knowledge of conducting investigations and using appropriate technology to build an understanding of Global Weather Patterns.

**Work It Out** (Science as Inquiry)

Teams of 4 will compete in a relay race to show their overall understanding of the topics covered in NCSO events this year. Pairs of students will complete an activity or task and answer quiz questions before their teammates can begin their portion of the relay.