

## GREEN GENERATION – Trial (updated 1-7-14)

1. **DESCRIPTION:** Students will answer questions involving the history and consequences of human impact on our environment, solutions to reversing trends and sustainability concepts.

**A TEAM OF UP TO: 2**

**IMPOUND: No**

**APPROXIMATE TIME: 50 minutes**

2. **EVENT PARAMETERS:** Each team may bring one 8.5" x 11" two-sided page of notes containing information in any form from any source. Each participant may bring any kind of (non-graphing) calculator, but no other resources.
3. **THE COMPETITION:** This event will be composed of three sections of approximately equal point value. This may include analysis, interpretation or use of charts, graphs and sample data. **Note:** Green Generations is designed for a two year rotation – the first year will cover aquatic issues, air quality issues and climate change while the second year will cover terrestrial issues, population growth issues.
  - a. **Part 1:** Review of the General Principles of Ecology
    - i. General Principles of Ecology - food webs and trophic pyramids, nutrient cycling, community interactions, population dynamics, species diversity and indicator species
    - ii. Overview of Aquatic Environments – freshwater, estuaries, marine
    - iii. Overview of Terrestrial Environments – forests, grasslands, deserts
  - b. **Part 2:** Problems resulting from human impacts on the quality of our environment
    - i. Population Growth Issues – Habitat Destruction, Farming Practices, Fertilizers & Pesticides
    - ii. Aquatic Environment Issues –Water pollution, Ocean Dead Zones, Water Diversion, Overfishing
    - iii. Terrestrial Environment Issues – Desertification, Deforestation, Soil pollution, Waste Disposal, Mining
    - iv. Air Quality Issues – Acid rain, Air Pollution, Nuclear Pollution
    - v. Climate Change Issues – Greenhouse Effect, Ozone Depletion
  - c. **Part 3:** Solutions to reversing/reducing human impacts that harm our environment
    - ii. Bioremediation Strategies
    - iii. Sustainability Strategies
    - iv. Nonrenewable vs. Renewable Energy Sources and Alternate Energy Sources
    - v. Everyday Solutions as recycling and composting
    - vi. Legislation and Economic Opportunity for Solving Problems (Div. C)
4. **SCORING:** Questions will be assigned point values. Students will be ranked from highest to lowest score. Ties will be broken by pre-determined tiebreaker questions.

**Recommended Resources:** Reference and training resources will be available on the Official Science Olympiad Store or Website at [www.soinc.org](http://www.soinc.org)