Ecology Expert

1. **DESCRIPTION:** Teams will be assessed on their knowledge of Deserts, Grasslands, & Forest 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.

2. **ESSENTIAL STANDARDS ALIGNMENT:** 1.L.1, 1.L.2, 1.E.2, 3.E.2, 4.L.1, 5.L.2, 6.L.2

3. **TEAM OF UP TO:** 2

4. **MAXIMUM TIME:** 60 min.

5. **TEAMS:** Must bring writing instruments. No other resources are allowed.

6. **EVENT LEADERS:** Will provide a hands-on event with all necessary items, objects, materials, questions, and response sheets for participants to complete stations.

7. **SAFETY REQUIREMENTS:** None.

8. **IMPOUND:** No

9. **THE COMPETITION:** This event will be run in a station format. Teams will rotate through stations with questions, models, pictures, diagrams, and maps that assess any or all of the following topics:

   a. The following ecosystems and biomes:
      i. Desert: Coastal, Hot and dry, Semiarid (NOTE: cold deserts will not be covered, as they are grouped with arctic)
      ii. Grassland: Savanna, Temperate
      iii. Forest: Temperate, Taiga, Tropical
   b. Components of desert, grassland, and forest ecosystems and biomes.
      i. Location on earth
      ii. Biotic and abiotic components
      iii. Adaptations of organisms that live in the biome
   c. The functions of organisms within each ecosystem and biome.
      i. Producers
      ii. Consumers
      iii. Decomposers
   d. The physical characteristics of each biome.
      i. Climate
      ii. Soil Nutrients
      iii. Amount of sunlight
   e. The interaction of organisms within an ecosystem.
      i. Food chains & webs
      ii. Trophic levels
      iii. Predator/prey interaction
      iv. Symbiotic relationships: mutualism, commensalism, parasitism

10. **SCORING:** Points will be awarded for the accuracy of responses. Ties will be broken by the accuracy or quality of answers to pre-selected questions chosen by the event leader.

11. **EVENT RESOURCES:**
    See the Event Resources tab on our website at www.sciencenc.com for instructions, videos and more.