

## Ecology Expert

1. **DESCRIPTION:** 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.
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. Marine: oceans, coral reefs, and estuaries
    - ii. Freshwater: ponds, lakes, streams, rivers, and swamps
    - iii. Arctic: ocean/ice and arctic tundra
  - c. Components of marine, freshwater, and arctic ecosystems and biomes.
    - i. Location on earth
    - ii. Biotic and abiotic components
    - iii. Adaptations of organisms that live in the biome
  - d. The functions of organisms within each ecosystem and biome.
    - i. Producers
    - ii. Consumers
    - iii. Decomposers
  - e. The physical characteristics of each biome.
    - i. Salinity
    - ii. Temperature
    - iii. Soil Nutrients
    - iv. Amount of sunlight
  - f. 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](http://www.sciencenc.com) for instructions, videos and more.