

Name _____

Unveiling the Metrics of Life: Exploring Biodiversity Measurement

Open-Ended Response Answer Key

1. Species richness is measured by conducting surveys to identify and count the various species inhabiting an ecosystem. It is important for assessing biodiversity because it provides information about the number and variety of species present, which is crucial for understanding the overall health and functioning of ecosystems.
2. Genetic diversity refers to the variety of genes within a population of a particular species. It is crucial for the survival and adaptation of species because it provides the raw material for evolution and natural selection, allowing populations to respond to environmental changes and threats.
3. Ecosystem diversity refers to the variety of habitats, communities, and ecological processes within a larger geographic area. It is important for maintaining the health and functioning of ecosystems because diverse ecosystems are more resilient to environmental changes and disturbances, providing essential services like nutrient cycling, water purification, and climate regulation.
4. Scientists assess species evenness by evaluating how evenly distributed the abundance of different species is within an ecosystem. It is important for understanding the distribution of species within ecosystems because it provides insights into the structure and dynamics of ecological communities, helping scientists identify potential threats and develop strategies for conservation and management.

