

Name _____

Woody Wonders: Exploring the Role of Woody Plants in Ecosystems

Open-Ended Response Answer Key

1. Woody plants support biodiversity by creating diverse habitats, offering shelter, food, and nesting sites for a wide range of organisms, from insects to mammals. The variety of niches provided by woody plants promotes species coexistence and resilience in ecosystems.
2. Soil stabilization by woody plants prevents erosion, maintains soil fertility, and supports plant growth by anchoring soil in place and reducing runoff. This process is essential for preserving ecosystem integrity and protecting vulnerable habitats from degradation.
3. Woody plants play a crucial role in carbon sequestration by absorbing carbon dioxide from the atmosphere and storing it in their biomass. Through photosynthesis, they convert carbon dioxide into organic matter, thereby mitigating climate change and reducing the concentration of greenhouse gases in the atmosphere.
4. Ecosystem services provided by woody plants are essential for human well-being and environmental sustainability. These include air and water purification, nutrient cycling, pollination, and provision of food, medicine, and raw materials. Woody plants contribute to the overall health and functioning of ecosystems, supporting both ecological integrity and human livelihoods.

