

Name _____

Unlocking the Secrets of Woody Plant Growth

Open-Ended Response Answer Key

1. Primary growth occurs at the tips of shoots and roots and involves elongation, while secondary growth occurs in lateral meristems, resulting in increased girth. Primary growth contributes to vertical growth, while secondary growth contributes to radial growth.
2. Environmental factors such as temperature, water availability, light intensity, and soil composition influence plant growth by affecting processes such as photosynthesis, nutrient uptake, and hormonal regulation.
3. Hormonal regulation in plants involves interactions between different hormones, including auxins, cytokinins, gibberellins, abscisic acid, and ethylene, which coordinate various physiological processes such as cell elongation, division, and differentiation.
4. Human activities such as deforestation lead to habitat loss and ecosystem degradation, while pollution from industrial emissions and agricultural runoff can degrade soil and water quality, impacting plant growth and ecosystem health.

