

Name _____

Inside the Plant: Exploring the Anatomy of Vascular Plants

Open-Ended Response Answer Key

1. Roots and stems in vascular plants work together to support the growth and development of the plant. Roots anchor the plant in the soil and absorb water and nutrients, while stems provide support for leaves and flowers and transport water and nutrients between roots and leaves.
2. Leaves in vascular plants play a critical role in photosynthesis by absorbing sunlight and converting it into energy for plant growth and reproduction. Their structure, including chlorophyll-containing cells and a large surface area, is adapted to maximize sunlight absorption and gas exchange.
3. Flowers in vascular plants are essential for sexual reproduction, attracting pollinators for fertilization and developing into fruits that contain seeds for dispersal. Pollination occurs when pollen from the male reproductive organs of a flower is transferred to the female reproductive organs, leading to fertilization and seed production.
4. Vascular tissues, including xylem and phloem, facilitate the transport of water, nutrients, and sugars throughout the plant. Xylem transports water and minerals from the roots to the rest of the plant, while phloem transports sugars produced during photosynthesis to various parts of the plant, supporting growth and development.

