Name _____

Unveiling the Anatomy of Woody Plants

Short Answer Key

1. Leaves are the primary sites of photosynthesis, where sunlight is converted into chemical energy. They also regulate gas exchange, allowing the plant to take in carbon dioxide and release oxygen.
2. Bark consists of several layers, including the outer cork cambium, cork cells, phloem, vascular cambium, and xylem. Its main function is protection against physical damage, pathogens, and extreme weather conditions.
3. Roots anchor the plant in the soil, absorb water and nutrients, and store carbohydrates produced during photosynthesis. They also contribute to soil aeration and stabilization.
4. Cambium is responsible for secondary growth in woody plants, producing new cells that differentiate into secondary xylem (wood) and secondary phloem.
5. The layers of the stem include the epidermis, cortex, vascular bundles, and pith. The epidermis protects the stem, while the vascular bundles transport water, nutrients, and sugars. The cortex provides structural support, and the pith stores carbohydrates.