

Name \_\_\_\_\_

## Unveiling the Anatomy of Woody Plants

### Open-Ended Response Answer Key

1. Roots absorb water and nutrients from the soil and store carbohydrates, while leaves perform photosynthesis, converting sunlight into energy. Leaves also regulate gas exchange, taking in carbon dioxide and releasing oxygen, unlike roots which are primarily for absorption and anchorage.
2. Bark, composed of layers like cork cambium and phloem, acts as a protective barrier against physical damage, pathogens, and extreme weather. Its structure ensures the plant's defense and helps maintain its overall health and integrity.
3. The cambium is crucial for secondary growth, producing new xylem and phloem cells that increase stem girth and structural strength. This growth supports the plant's stability and enhances nutrient transport.
4. Roots, stems, and leaves are interdependent: roots absorb nutrients, stems transport them, and leaves perform photosynthesis. Each part's function supports the others, ensuring the plant's overall health and growth.

