Name _____

The Green Mystery: Why Are Leaves Green?

Short Answer Key

1. Chlorophyll appears green because it primarily absorbs blue and red light while reflecting and transmitting green light. It contributes to photosynthesis by capturing sunlight energy for the conversion of carbon dioxide and water into glucose and oxygen.
2. Carotenoids are pigments responsible for orange, yellow, and red colors in some leaves and fruits. An example of a plant displaying carotenoid colors is the maple tree in the fall.
3. Leaves change color in the fall as chlorophyll breaks down and other pigments become visible. This process benefits the plant by conserving energy during the winter months and preparing for the next growing season.
4. Having green leaves benefits plants by efficiently capturing sunlight for photosynthesis, providing camouflage from herbivores, conserving water, and regulating temperature.
5. The wavelengths of light absorbed by chlorophyll (blue and red) are the most energy-rich, making them ideal for photosynthesis.