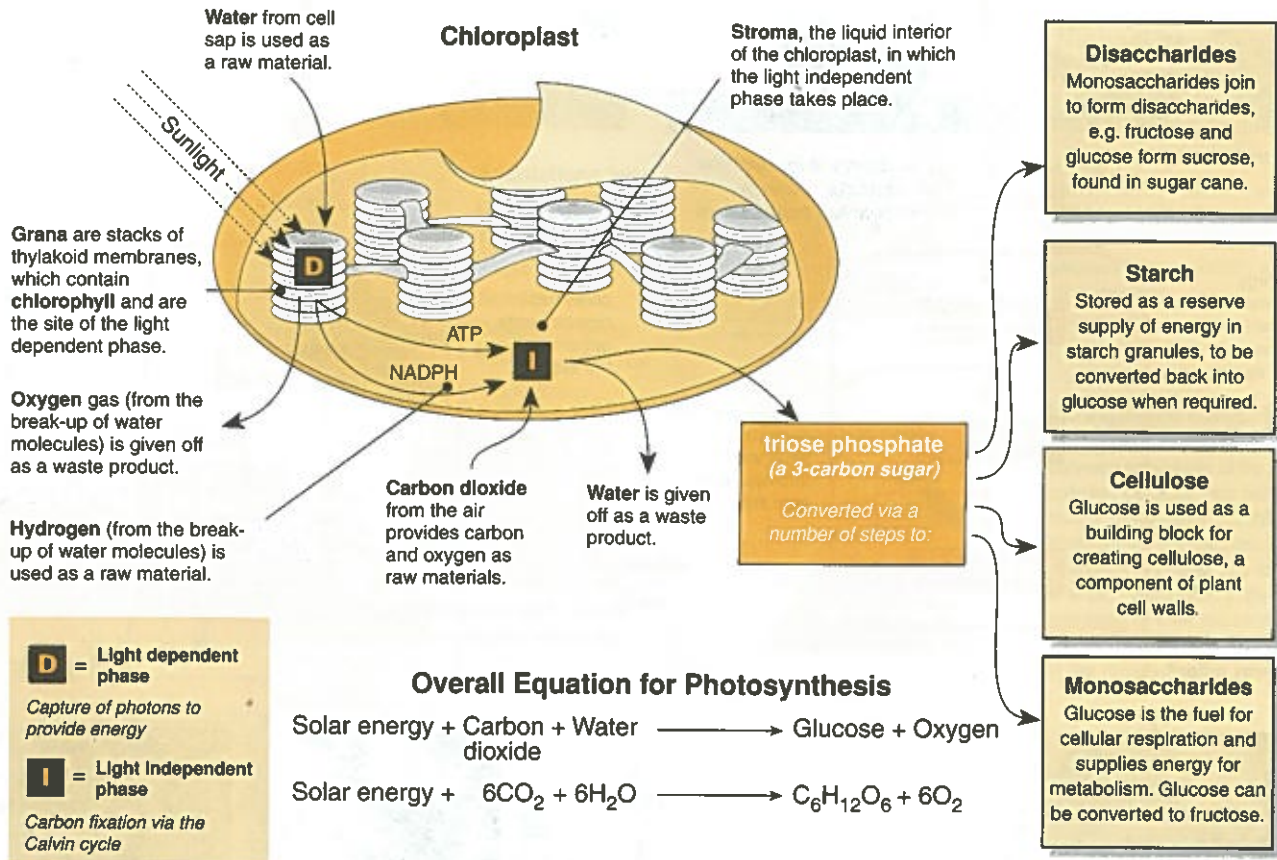


Photosynthesis

Photosynthesis is of fundamental importance to living things because it transforms sunlight energy into chemical energy stored in molecules, releases free oxygen gas, and absorbs carbon dioxide (a waste product of cellular metabolism). Photosynthetic organisms use special pigments, called **chlorophylls**, to capture light energy by absorbing light of specific wavelengths. Visible light is a small fraction of the electromagnetic radiation reaching

Earth from the Sun. Of this only wavelengths corresponding to red and blue are absorbed for photosynthesis. Other wavelengths, particularly green, are reflected or transmitted. Photosynthesis plays an important role in the cycling of carbon and oxygen, producing the oxygen used and removing the carbon dioxide produced during respiration of living organisms. It also helps fix carbon that may be buried and removed temporarily from the cycle.

Summary of Photosynthesis in a C₃ Plant



1. Explain why photosynthesis is so important for life on Earth: _____

2. Explain why plant leaves appear green: _____

3. Describe how plants use some of the end products of photosynthesis: _____

4. Describe how the following molecules are used or produced during photosynthesis:
 - (a) Oxygen: _____

 - (b) Carbon dioxide: _____

