

Photosynthesis is a process in which energy from sunlight is used to convert carbon dioxide and water into glucose (sugar) and oxygen in the presence of chlorophyll. It is a process that is essential to all life on Earth, and the source of nearly all of the organic compounds found in living things. Plants, algae, and certain bacteria use photosynthesis to produce energy which they use to fuel their daily activities, such as growth, cell repair, and reproduction. Photosynthesis also powers the food web by providing a food source for other organisms. The process of photosynthesis occurs in two stages: the light-dependent reactions, which use energy from sunlight to convert water and carbon dioxide to glucose, and the light-independent reactions (or Calvin cycle) which use the energy from the light-dependent reactions to make glucose from carbon dioxide.