



ACROSS

- 1 The production of ATP using the energy of sunlight is called _____.
- 5 The _____ evolving complex is a water oxidizing enzyme involved in the photooxidation of water during the light reactions of photosynthesis.
- 7 In photosynthesis the _____ dependent reaction produces oxygen gas and converts ADP and NADP+ into the energy carriers ATP and NADPH.
- 8 In photosynthetic organisms, the accessory pigments _____s play a vital role in the photosynthetic reaction center, either participating in the energy-transfer process or protecting the reaction center from auto-oxidation.
- 9 _____ pigments are light-absorbing compounds, found in photosynthetic organisms, that work in conjunction with chlorophyll A.
- 11 A photosynthetic _____ center is a protein that is the site of the light reactions of photosynthesis.
- 13 A _____-harvesting

- complex is one or more polypeptide chains containing photosynthetic pigments, which surrounds a photosynthetic reaction centre and focuses light inward toward its core.
- 14 _____s, or reaction centers, are protein complexes involved in photosynthesis which use light to reduce molecules.
- 16 _____ adenine dinucleotide phosphate is reduced in chloroplasts by means of the light reactions of photosynthesis.
- 18 _____s are organisms that carry out photosynthesis.
- 20 _____ resonance energy transfer describes an energy transfer mechanism between two chromophores.

DOWN

- 1 _____ is the reaction-center associated with photosystem II and consists of 2 chlorophyll A molecules that are not bound to proteins unlike the other chlorophyll molecules in photosystem II.

- 2 _____ is the conversion of light energy into chemical energy by living organisms.
- 3 A _____ is a membrane-bound compartment inside chloroplasts and cyanobacteria which are the site of the light-dependent reactions of photosynthesis.
- 4 _____s are organelles found in plant cells and eukaryotic algae that conduct photosynthesis.
- 6 The _____ b6f complex of chloroplasts and cyanobacteria transfers electrons between the two reaction center complexes of oxygenic photosynthetic membranes, photosystem I and photosystem II, and also participates in formation of the transmembrane electrochemical proton gradient.
- 10 _____ carbon fixation is a metabolic pathway that uses the Calvin Cycle for the initial steps of carbon fixation in photosynthesis converting carbon dioxide and ribulose biphosphate into 3-phosphoglycerate.
- 12 _____ is a green pigment found in most plants, algae,

- and cyanobacteria which absorbs light to begin the energy transduction processes of photosynthesis.
- 15 Carbon _____ is a process found in autotrophs, usually driven by photosynthesis, whereby carbon dioxide is changed into organic materials.
- 17 The _____ complex is an array of chlorophyll molecules embedded in the thylakoid membrane which transfer light energy to one chlorophyll A molecule at the reaction center of a photosystem.
- 19 _____ is the reaction-center chlorophyll A molecule in association with photosystem I.
- 21 With _____ carbon fixation, a plant prefaces the Calvin Cycle with reactions that incorporate carbon dioxide into 4-carbon organic acid which has the ability to regenerate carbon dioxide in the chloroplasts of bundle sheath cells.