



# What organelle converts solar energy to chemical energy

Chloroplast is the cell organelle responsible for creating chemical energy. Energy is stored as chemical energy in all organic compounds present in different forms in the biosphere. Breakdown of these compounds into simpler compounds liberates this energy in different forms. The source of chemical energy present in all these compounds is photosynthesis occurring in ...

photosynthesis, the process by which green plants and certain other organisms transform light energy into chemical energy. During photosynthesis in green plants, light energy is captured and used to convert water, carbon dioxide, and minerals into oxygen and energy-rich organic compounds.

Cellular respiration is the process through which cells convert fuel into energy and nutrients. To create ATP and other forms of energy that they can use to power their life functions, cells require fuel and an electron acceptor which drives the chemical process of turning energy from that fuel into a useable form.

Through photosynthesis, certain organisms convert solar energy (sunlight) into chemical energy, which is then used to build carbohydrate molecules. The energy used to hold these molecules together is released ...

The overall function of light-dependent reactions is to convert solar energy into chemical energy in the form of NADPH and ATP. This chemical energy supports the light-independent reactions and fuels the assembly of sugar molecules. ... such as plants and algae, have organelles called chloroplasts in which photosynthesis takes place, and starch ...

A)This organelle converts solar energy into chemical energy. B)his organelle serves as a barrier to keep items in or out. C)This organelle is responsible for making proteins for use in the cell and for export. D)This organelle is responsible for the synthesis, modification, and

Study with Quizlet and memorize flashcards containing terms like Which organelle converts the chemical energy stored in food into compounds that are more convenient for the cell to use?, Which of the following is an example of an abiotic factor?, Which of the following processes is the formula  $C_6H_{12}O_6 \rightarrow 6O_2 + 6H_2O$  + chemical energy used for? and more.

Through photosynthesis, certain organisms convert solar energy (sunlight) into chemical energy, which is then used to build carbohydrate molecules. The energy used to hold these molecules together is released when an organism breaks down food. ... In all autotrophic eukaryotes, photosynthesis takes place inside an organelle called a chloroplast ...

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In fact, the Sun is the ultimate source of energy for almost all cells, because photosynthetic prokaryotes, algae, and plant cells harness solar energy and use it to make the complex organic food ...

Study with Quizlet and memorize flashcards containing terms like Which of a cell's organelles releases energy stored in food?, Which of the following organelles convert solar energy into glucose and oxygen?, Which organelle in the plant cell shown above makes glucose from sunlight? and more.

to convert solar energy into the chemical energy of sugars. select the ultimate source of energy for nearly every organism on this planet. ... the chemical reactions of photosynthesis occur in which cellular organelle? chloroplasts. what is the role of mitochondria in plants? produce ATP. what is the role of chloroplasts in animals? none, as ...

chloroplast, structure within the cells of plants and green algae that is the site of photosynthesis, the process by which light energy is converted to chemical energy, resulting in the production of oxygen and energy-rich organic ...

The organelle indicated by letter b is responsible for what cellular activity? A) This organelle converts solar energy into chemical energy. B) This organelle is responsible for digesting food or other nutrients. C) This organelle is responsible for carrying out genetic functions of the cell. D) This organelle functions in processing energy for ...

Photosynthesis uses solar energy, carbon dioxide, and water to release oxygen and to produce energy-storing sugar molecules. The complex reactions of photosynthesis can be summarized by the chemical equation shown in Figure 5. Figure 5.

Study with Quizlet and memorize flashcards containing terms like Which process converts solar energy into chemical energy in the form of a carbohydrate?, A heterotrophic organism is best described as an organism that: Multiple choice question. can capture energy and synthesize organic molecules from inorganic nutrients cannot synthesize organic compounds from ...

A chloroplast is an organelle within the cells of plants and certain algae that is the site of photosynthesis, which is the process by which energy from the Sun is converted into chemical energy for growth. A chloroplast is a type of ...

Light energy is absorbed by chlorophyll molecules in the chloroplasts, which then convert this energy into chemical energy in the form of glucose. What organelle converts sunlight energy?

Meanwhile, plant cells have certain organelles not found in animal cells: Cell Wall: Plants, fungi, and some protists have a rigid cellulose-based cell wall that keeps the cell rigid and protects it from osmotic pressure.



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Chloroplasts: Conduct photosynthesis to convert solar energy into chemical energy.; Central Vacuole: Stores water, maintains turgor pressure.

Chlorophyll pigment captures light, the photosystems process it into chemical energy, stored in ATP and NADPH molecules, to then construct carbohydrates. Explanation: The organelle that converts solar energy into chemical energy is the chloroplast, located in cells of photosynthetic organisms like plants and some bacteria. They contain a green ...

It is the only biological process that can capture energy that originates in outer space (sunlight) and convert it into chemical compounds (carbohydrates) that every organism uses to power its metabolism.

The overall function of light-dependent reactions is to convert solar energy into chemical energy in the form of NADPH and ATP. This chemical energy supports the light-independent reactions and fuels the assembly of sugar molecules. The light-dependent reactions are depicted in Figure (PageIndex{7}). Protein complexes and pigment molecules ...

Through a set of reactions that occur in the cytosol, energy derived from the partial oxidation of energy-rich carbohydrate molecules is used to form ATP, the chemical energy currency of cells (discussed in Chapter 2). But a much more efficient method of energy generation appeared very early in the history of life. This process is based on membranes, and it enables cells to acquire ...

The sun shines on a leaf. That solar energy excites electrons inside water molecules in the leaf, and because excited electrons bounce around a lot, the hydrogen and oxygen atoms in the water molecules break apart, launching these excited electrons into the first stage of photosynthesis -- a conglomeration of enzymes, proteins and pigments called ...

How is solar energy converted into chemical energy? ... What organelle converts sunlight into chemical energy? Chloroplasts contain the molecule chlorophyll, which absorbs sunlight for photosynthesis. A chloroplast is an organelle unique to plant cells that contain chlorophyll (which is what makes plants green) and is responsible for enabling ...

Photosynthetic cells contain chlorophyll and other light-sensitive pigments that capture solar energy. In the presence of carbon dioxide, such cells are able to convert this solar energy into...

A chloroplast is an organelle within the cells of plants and certain algae that is the site of photosynthesis, which is the process by which energy from the Sun is converted into chemical energy for growth. A chloroplast is a type of plastid (a saclike organelle with a double membrane) that contains chlorophyll to absorb light energy.

In the light-dependent reactions, energy from sunlight is absorbed by chlorophyll and that energy is converted



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into stored chemical energy. In the light-independent reactions, the chemical energy harvested during the light-dependent reactions drive the assembly of sugar molecules from carbon dioxide. Therefore, although the light-independent ...

The overall function of light-dependent reactions is to convert solar energy into chemical energy in the form of NADPH and ATP. This chemical energy supports the light-independent reactions and fuels the assembly of sugar molecules. The light-dependent reactions are depicted in Figure 8.16. Protein complexes and pigment molecules work together ...

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