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[Science](#), [Chemistry](#)



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Living things and The Sun's Energy Most of the energy we use is from the sun. This energy from the sun is called solar energy, plants convert it into energy, and animals eat plants and convert that into energy. Humans eat plants and animals and convert those into energy; humans also use solar energy to create electricity. How exactly then is the sun's energy converted into a sustainable energy source? One process is photosynthesis. In plants, cells called chloroplasts collect energy from the sun and use water and carbon dioxide (photosynthesis) to make sugars. 1 Light energy (called photons) hit single chlorophyll pigments in the cells of the plant leaves. 2 Photoautotrophs is the term used for plants that create energy out of sunlight. Plants that do not use the sun's energy are called chemoautotrophs. 3 For photosynthesis to begin a few conditions must be met; enough water must be available in a plant's body, there should be direct sunlight on its leave, the leaves are green, and the leaves need to have access to carbon dioxide in the air. 4 When the light energy has stimulated enough of the chlorophyll it is brought to a singular part of the chloroplast. The light energy combines with the water molecules, carbon dioxide molecules, and adenosine diphosphate and creates a chemical reaction. 5 This chemical reaction produces oxygen and adenosine triphosphate, or ATP. 6 When the cells of a plant need chemical energy the ATP molecules get transferred to those cells. 7 The energy is then brought to another part of the chloroplast called the stroma and within the stroma a process takes place that turns the energy into sugars. 8 This sugar can be used by the plant immediately for metabolic function. 9 When animals eat

plants they consume this energy, which is absorbed and stored in compounds such as fats and proteins. 10 In plants energy is stored in compounds known as carbohydrates. There are other ways we use the sun's energy. We can capture the sun's rays through solar panels and convert this into electricity. The sun's energy makes wind blow and rain fall and we can capture that energy through dams and windmills and again, convert that into electricity to run our homes and businesses. 11 The sun is an integral part of the life process, most things would wither and die without sunlight. Source Reference: 1 "Energy Cycle in Living Things"; R. Nave; <http://hyperphysics.phy-astr.gsu.edu/hbase/Biology/energyc.html>; 2-9 "How Do Plants Get Energy From Sun Light"; By John Albers, ehow Contributor; http://www.ehow.com/how-does_4564177_plants-energy-sun-light.html; 10 "Energy from the Sun (Green Plants as Primary Food Producers)"; <http://www.tomatosphere.org/teacher-resources/teachers-guide/sun-energy.cfm>; 11 http://www.need.org/needpdf/infobook_activities/ElemInfo/SolarE.pdf