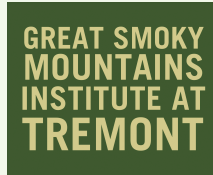


Photosynthesis

Yealey Elementary, KY



Watch Now

Photosynthesis is a necessary cellular process for plants in the Great Smoky Mountains and around the globe. Sunlight, water, and carbon dioxide are transformed into oxygen and glucose within microscopic chloroplasts organelles. Plants are producers, an integral role in an ecosystem and food web, and their structural adaptation to obtain energy from sunlight is unique and necessary for life on Earth. Additionally, plants cycle excess carbon dioxide from the atmosphere. Students who help their communities maintain or create green spaces can reduce the amount of carbon in the air.

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| 4.LS2.1 | Support an argument with evidence that plants get the materials they need for growth and reproduction chiefly through a process in which they use carbon dioxide from the air, water, and energy from the sun to produce sugars, plant materials, and waste (oxygen); and that this process is called photosynthesis. |
| 4.LS2.2 | Develop models of terrestrial and aquatic food chains to describe the movement of energy among producers, herbivores, carnivores, omnivores, and decomposers. |
| 4.LS2.3 | Using information about the roles of organisms (producers, consumers, decomposers), evaluate how those roles in food chains are interconnected in a food web, and communicate how the organisms are continuously able to meet their needs in a stable food web. |
| 6.LS2.3 | Draw conclusions about the transfer of energy through a food web and energy pyramid in an ecosystem. |
| 7.LS1.1 | Develop and construct models that identify and explain the structure and function of major cell organelles as they contribute to the life activities of the cell and organism. |

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| 7.LS1.3 | Evaluate evidence that cells have structural similarities and differences in organisms across kingdoms. |
| 7.LS1.4 | Diagram the hierarchical organization of multicellular organisms from cells to organism. |
| 7.LS1.6 | Develop an argument based on empirical evidence and scientific reasoning to explain how behavioral and structural adaptations in animals and plants affect the probability of survival and reproductive success. |
| 7.LS1.9 | Construct a scientific explanation based on compiled evidence for the processes of photosynthesis, cellular respiration, and anaerobic respiration in the cycling of matter and flow of energy into and out of organisms. |

PHYSICAL SCIENCE

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| 5.PS1.2 | Analyze and interpret data to show that the amount of matter is conserved even when it changes form, including transitions where matter seems to vanish. |
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Because you know I'm all about the roots,
about the roots
Need water
The sun is pretty cool, pretty cool
Keep shining
I need that CO₂, CO₂, stomata
Releasing the O₂, the O₂

Yeah, it's pretty clear that I can grow too
But I can grow it, grow it
A little bit better than you
Because I have food, food that all the plants
want
And all the right soil, in all the right places
I see the big old trees, working their many
leaves

Photosynthesis is in progress now
If you've got chlorophyll, just use it up
Because every part of it is growing from the
roots into the leaves

Yeah, the plants really need just a little more
sunlight to fight
And under the leaf through the stoma goes
carbon dioxide
From the stem to the veins goes the water to
the chloroplast
Yeah, the chlorophyll inside helps create the
glucose at last

Because you know I'm all about those
leaves, about those leaves
I need them
Making great big trees, great big trees
You love them
Photosynthesis, synthesis

Make glucose
Photosynthesis, synthesis

The sun brings energy
Herbivores eating all the plants below
Predators devour smaller animals you know
All the energy is flowing from the bottom to
the top

Yeah, the plants really need just a little more
sunlight to fight
And under the leaf through the stoma goes
carbon dioxide
From the stem to the veins goes the water to
the chloroplast
Yeah, the chlorophyll inside helps create the
glucose at last

Because you know I'm all about the roots,
about the roots
Need water
The sun is pretty cool, pretty cool
Keep shining
I need that CO₂, CO₂
Stomata
Releasing the O₂, the O₂

Because you know I'm all about the plants,
about the plants
And soil
I'm all about the plants, about the plants
Don't foil
Amazing lives of plants, lives of plants
And soil

I'm all about the plants