

# Notes Log: Summarization: Complete Science Sample 1

Topic/Title: Energy in an Ecosystem	Pages: 280-284
<p><b>Main Ideas</b></p> <p>Heterotrophs must eat autotrophs to obtain energy.</p> <p>Autotrophs make their own food through photosynthesis.</p> <p>Organisms can be classified by their energy roles in the ecosystem.</p> <p>Food chains describe how energy flows from producers to consumers.</p> <p>Food webs show overlapping food chains.</p>	<p><b>Notes</b></p> <ul style="list-style-type: none"> <li>• Cannot make own food</li> <li>• Animals and fungi</li> <li>• Plants</li> <li>• Convert sunlight and carbon dioxide to energy and oxygen and store it in molecules that can be broken down</li> <li>• Producers             <ul style="list-style-type: none"> <li>– Autotrophs</li> <li>– Produce and store energy</li> <li>– Grasses, shrubs, and trees</li> </ul> </li> <li>• Consumers             <ul style="list-style-type: none"> <li>– Heterotrophs</li> <li>– Obtain energy by consuming other organisms</li> <li>– Herbivores, carnivores, and omnivores</li> </ul> </li> <li>• Decomposers             <ul style="list-style-type: none"> <li>– Heterotrophs</li> <li>– Obtain energy by breaking down wastes and the remains of dead organisms</li> <li>– Small molecules are returned to the environment</li> <li>– Mold and bacteria</li> </ul> </li> </ul> <div data-bbox="695 1234 974 1581"> <p><b>FOOD CHAIN</b></p> </div> <div data-bbox="695 1633 1015 1864"> </div>

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**Main Idea of Section:**

Energy from the sun is transferred from producers to consumers and decomposers.

**Summary**

Because autotrophs can convert sunlight and carbon dioxide to energy and oxygen, heterotrophs are dependent on autotrophs for food. All organisms may be classified by their energy roles in the ecosystem. Autotrophs are producers, and heterotrophs are either consumers or decomposers. A food chain or food web can show how the energy flows from organism to organism.

**Science TEKS****Grade 8:**

(11) Organisms and environments. The student knows that interdependence occurs among living systems and the environment and that human activities can affect these systems. The student is expected to:

(A) describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems.

SOURCE: TEA, 2009.

# Notes Log: Summarization: Complete Science Sample 2

Topic/Title: What is a Tropical Rainforest?		Pages: 1–3
<b>Main Ideas</b>	<b>Notes</b>	
Tropical rainforests are found near the equator.	<ul style="list-style-type: none"> <li>Tropical rainforests are mostly found between the Tropic of Cancer and the Tropic of Capricorn</li> <li>The largest rainforests are found in:               <ul style="list-style-type: none"> <li>Brazil (South America)—the Amazon is the largest tropical rainforest, 2/3 the size of the U.S.</li> <li>The Democratic Republic of Congo (Africa)</li> <li>Indonesia (islands near the Indian Ocean)</li> </ul> </li> <li>Other tropical rainforests found in: Southeast Asia, Hawaii, and Caribbean islands</li> </ul>	
Tropical rainforests are called “rainforests” because of the rainfall they receive.	<ul style="list-style-type: none"> <li>Tropical rainforests see 160–300 inches of rain per year</li> <li>The city of Los Angeles sees 10–20 inches of rain per year</li> <li>Tropical rainforests have a year-round temperature of 75–80 degrees</li> </ul>	
Tropical rainforests have hundreds of different species that live in four layers.	<ul style="list-style-type: none"> <li>Tropical rainforests are unique because they are home to hundreds of different plant and animal species.</li> <li>The incredible number of species make tropical rainforests different from forests in North America.</li> <li>Four layers:               <ul style="list-style-type: none"> <li>Emergent trees: the few trees that poke out to reach the sun</li> <li>Canopy: most of the plant growth and animals are here</li> <li>Understory: young trees and shrubs</li> <li>Forest floor: has very little sunlight and a thin carpet of wet, rotting leaves</li> </ul> </li> </ul>	
Plants and animals of the rainforest are interdependent.	<ul style="list-style-type: none"> <li>Interdependent = depend on each other for survival</li> <li>If one type of plant or animal becomes extinct, other plants and animals are also in danger of extinction</li> </ul>	
Rainforests recycle everything.	<ul style="list-style-type: none"> <li>When leaves, flowers, or an animal dies on the forest floor, they decay and are recycled back into the soil and roots</li> <li>Roots are shallow to collect all of the nutrients from the decay</li> <li>Rain is recycled as water evaporates, forms clouds, and rains again onto the forest</li> </ul>	
Rainforests are essential to everyone on Earth.	<ul style="list-style-type: none"> <li>Rainforests help control the world’s climate</li> <li>Many medicines come from plants that grow in tropical rainforests</li> <li>Logging and gold mining threaten to destroy the rainforest</li> </ul>	

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People live in the rainforest in a sustainable manner.	<ul style="list-style-type: none"> <li>Indigenous people have lived in the rainforest for thousands of years and use it in a manner that does not destroy the rainforest.</li> <li>Recently, many people have moved to the rainforest and do not use the resources carefully</li> </ul>
Rainforests cannot grow back once they have been destroyed.	<ul style="list-style-type: none"> <li>Plants and animals that are interdependent cannot rebuild their community</li> <li>Rainforests are 70–100 million years old and have species found nowhere else on Earth</li> </ul>

**Main Idea of Section:**

It is essential that we protect our tropical rainforests.

**Summary**

Tropical rainforests are found near the equator between the Tropic of Cancer and the Tropic of Capricorn. The name “rainforests” was chosen because they receive a lot of rain, about 160–300 inches per year, and have four layers of vegetation called emergent trees, canopy, understory, and forest floor. The rainforest is home to hundreds of different species of plants and animals that are interdependent, or dependent on each other for survival. This means that if one plant or animal becomes extinct, other plants or animals may be in danger of extinction. The hundreds of species of plants and animals contribute to the sustainability of the rainforest ecosystem. Rainforests recycle everything, including leaves, flowers, animals, and even water. A rainforest cannot grow back once it has been destroyed, so it is important that we protect our tropical rainforests. Without them, we would lose sources of medicines and experience major changes in climate around the world. Rainforests are essential to everyone on Earth.

**Science TEKS****Grade 7:**

(10) Organisms and environments. The student knows that there is a relationship between organisms and the environment. The student is expected to:

(B) describe how biodiversity contributes to the sustainability of an ecosystem;

SOURCE: TEA, 2009.