

Biology Pacing Guide

**Teachers of Biology must become familiar with and implement the NYS *Process Strands*:** The process strands (problem solving, relationships, processes, mechanisms, models and applications of biological concepts). These process strands help students in attaining science literacy, generate explanations, exhibit creative problem solving, and make informed decisions on the living environment and scientific inquiry.

Ecology is the 6th of 7 units within the Biology course. Key Idea 6: Plants and animals depend on each other and their physical environment.

3 Weeks	Content Bands & Student expectations	Performance Indicators – Major Understands	Essential question(s), Textbook connection, Suggested Labs/Activities	Vocabulary
<b>Unit 6 ECOLOGY</b>	<p><b>Intro to Plants</b> Students will be able to discuss the function of plants in the environment.</p>	<p><b>P.I. 1.1, 6.1</b> 4:5.1.a,b 4:6.2.a</p>	<p><b>Essential Questions:</b> What would happen if all of the plants would die?</p> <p><b>Textbook Connections:</b> Chapter 4.2, 20.3</p>	<p>Photosynthesis Guard Cells Chloroplast</p>
	<p><b>Levels of Organization</b> Students will understand how the environment is organized.</p>	<p>1:1.1.a, 1:1.2a, 4:1.1b, 4:6.3a</p>	<p><b>Essential Question:</b> What is Ecology and what does it entail?</p> <p><b>Textbook Connection:</b> Chapter 13.1,13.2</p>	<p>Ecology Ecosystem Community Abiotic Biotic Biosphere</p>
	<p><b>Flow of Energy</b> Students will be able to trace the flow of energy through ecosystems.</p>	<p>4:6.1a, 4:1.1a, f</p>	<p><b>Essential Question:</b> How does energy flow through the ecosystems?</p> <p><b>Textbook Connection:</b> Chapter13.3, 13.4, 13.6</p> <p><b>Suggested Labs/ Activities:</b> Make a Food Chain Model</p>	<p>Producer Consumer Autotroph Heterotroph Food chain Food web Energy pyramid</p>
	<p><b>Environmental Cycles</b> Students will be able to interpret diagrams of C, N, O and Water Cycles</p>	<p>4:6.1b,c 4:1.1e</p>	<p><b>Essential question:</b> How do the arrows indicate the flow of energy in the diagrams found in section 13.5?</p> <p><b>Textbook Connection:</b> Chapter 13.5, 15.1</p>	<p>Nitrogen Oxygen Hydrogen</p>
	<p><b>What is your Niche?</b> Students will be able to differentiate between an organism’s habitat and its niche.</p>	<p>4:1.1c, d</p>	<p><b>Essential Question:</b> How does a habitat differ from a niche?</p> <p><b>Textbook Connection:</b> Chapter 14.1</p>	<p>Habitat Niche</p>

**Enduring Understanding:** Students will understand and apply scientific concepts, principles, and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science as it pertains to Biology.