

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.

Introduction to the course includes the Cell which is the foundation of the study of all living things. Key idea 1: Living things are both similar and different from each other and from nonliving things.

7 Weeks	Content Bands & Student Expectations	Performance Indicators – Major Understanding	Essential question(s), Textbook connection, Suggested Labs/Activities	Vocabulary
Unit 1 Introduction To Biology	<p>Study of Life</p> <p>Scientific Process Student will learn that science is a way of thinking, questioning and gathering evidence.</p> <p>Characteristics of Life Students will be able to express that all living things share common characteristics.</p>	<p>4:1.3a, 4:5.2a, 1:2.3a,1:2.4a, 1:1.4a, 1:1.1c,4:7.3a</p>	<p>Essential Question: What characteristics do all living things share?</p> <p>Textbook Connection: Chapter 1.1,1.2,1.3</p> <p>Suggested Labs/ Activities: Scientific Method Life under a microscope Lab Safety How to write a lab report</p>	<p>Biology Biodiversity Data Organism Homeostasis Hypothesis Independent variable Dependent variable Experiment Metabolism Constant Observation Theory Life Processes</p>
	<p>Cells</p> <p>Cell Theory Students will be able to list the three parts of the cell theory.</p> <p>Cell Structure Students will identify the Structures and Functions of the organelles of a Eukaryotic cell.</p> <p>Cell Transport Student will understand how molecules move through the cell membrane</p>	<p>1:1.4 a 4:1.2 f,g,i</p>	<p>Essential Question: What is the basic unit of life and how does it function?</p> <p>Textbook Connection: Chapter 3.1-3.5</p> <p>Suggested Labs/ Activities: Cell model Diffusion egg Required NYS Lab-Diffusion through a membrane</p>	<p>Cell theory Organelle Cytoplasm Cytoskeleton Prokaryote Eukaryote Nucleus Ribosome Mitochondria Cell wall Chloroplast</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.