

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.

The Human Body is the 2nd of 7 units within the Biology course. Key idea 1: Living things are both similar and different from each other and from nonliving things. Key Idea 5: Organisms maintain a dynamic equilibrium that sustains life.

(Cont.)	Content Bands & Student Expectations	Performance Indicators – Major Understandings	Essential question(s), Textbook connection, Suggested Labs/Activities	Vocabulary
<b>UNIT 2</b> <b>Human Body and Homeostasis</b>	<p><b>Immune System and Disease</b> Students will be able to describe how the immune system works to keep the body healthy by protecting it from disease</p> <p>Students will understand how vaccines work.</p> <p>Students will understand the difference between a virus and bacteria.</p>	<p><b>P.I. 5.2</b> 4:5.2.b,c,d,e,f,g,h,j 4:1.2c</p>	<p><b>Essential Question:</b> How does the immune system work to keep the body healthy?</p> <p><b>Textbook Connection:</b> Chapter 31.1-31.6</p> <p><b>Suggested Labs /Activities:</b> Dread Red Activity/AIDS</p>	<p>Pathogen Immune system Phagocyte Antibody Antigen Inflammation Vaccine Allergen</p>
	<p><b>Digestive System and Excretory System</b> Students will be able to describe how the Digestive and Excretory systems work maintain homeostasis.</p>	<p>4:1.2 b, e</p>	<p><b>Essential Question:</b> How do the digestive and excretory systems work to maintain homeostasis?</p> <p><b>Textbook Connection:</b> Chapter 32.2-32.4</p> <p><b>Suggested Labs/ Activities:</b> Modeling Enzymes Antacid effectiveness</p>	<p>Digestion Digestive system Esophagus Peristalsis Stomach Small intestine Bile Absorption Villi Excretory system Kidney</p>
	<p><b>Biochemistry</b> Students will be able to discuss the four groups of the carbon-based molecules which make up living organisms.</p>	<p><b>P.I. 5.1</b> 4:5.1.c,f,g</p>	<p><b>Essential Question:</b> What are the four carbon - based molecules?</p> <p>Textbook Connection: Chapter 2.1-2.5</p>	<p>Carbohydrates Proteins Lipids Nucleic Acids Enzyme</p>
	<p><b>Protection, Support And Movement</b> Students will understand how the body moves.</p>	<p>4:1.2 b</p>	<p><b>Essential Question:</b> How do our muscles and bones work together to allow Us to move?</p> <p><b>Textbook Connection:</b> Chapter 33.1-2</p> <p><b>Suggested Activity/ Lab:</b> Chicken wing dissection</p>	<p>Skeletal System Vertebrae Cartilage Joint Ligament Muscular System Tendon Cardiac Muscle</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.

