



**Mattawan Consolidated Schools**  
**Honors Anatomy and Physiology 11/12**  
**Essential Standards Chart**

Standard Description	Example of Rigor	Prerequisite Skills	Common Assessment	When Taught?	Extension Standards
What is the essential standard to be learned?	What does proficient look like? Provide an example and/or description.	What prior knowledge, skills, and/or vocabulary is/are needed for a student to master this standard?	What assessments will be used to measure student mastery?	When will this standard be taught?	What will we do when students have learned the essential standard(s)?
Define homeostasis and explain an example of it in the human body.	Describing scenarios in which the body maintains a stable internal environment.	Basic understanding of the human body and what desirable conditions would be internally	Ch. 1 test	Semester 1- Ch. 1	Negative feedback loops: temperature, blood sugar
Describe the 4 main groups of tissues in the body and provide examples of each.	When given an example of a tissue, students can properly classify it by tissue type.	Tissues  Cells  Body organization from simple to complex: atoms to organisms	Ch. 5 Test  Tissue concept map	Semester 1- Ch. 5	Identify organs of major body systems  Identify functions of major body systems  Identify functions

					of organs within systems
Describe the structure of the skin and its functions.	When given a picture of skin, students can identify the 3 main layers and their functions.	Basic knowledge of the skin's role as a barrier and outer layer of the body	Ch. 6 Test Mechanoreceptor's activity Skin diagram practice worksheet Lab manual diagram practice	Semester 1- Ch. 6	Identify accessory structures of skin Hair Nails Replacement of skin Healing of skin Burns Skin disorders
Describe the functions of the skeletal system. Be able to identify the major bones of the body.	Identify functions with the system. Label a skeletal system diagram with bone names.	Basic understanding of the muscular system and it's relationship with skeletal system. Blood	Ch. 7 Quiz #1: Bone structure Ch. 7 Quiz #2: Skull bones Ch. 7 Test Lab manual diagrams and labeling practice Skeleton Poster Project	Semester 1- Ch. 7	The skull Axial and appendicular skeleton Different types of bones Bone development (POGIL)

<p>Describe the functions of the muscular system (skeletal). Identify the major muscles of the body.</p>	<p>When given the diagram, students can identify the names of muscles.</p> <p>Identify the functions of the muscular system.</p>	<p>Basic understanding of the muscular system and its relationship with the skeletal system.</p> <p>Basic understanding of how the body moves.</p> <p>Cardiac muscle Smooth Muscle Skeletal Muscle</p>	<p>Ch. 8 Test Muscle Labeling</p> <p>Midterm exam- Ch. 8 section</p> <p>Lab manual diagram labeling practice</p> <p>Muscle contraction lab</p>	<p>Semester 1- Ch. 8</p>	<p>Use of muscles in sports activities</p> <p>Role of muscles</p> <p>Muscle actions</p> <p>Sliding Filament Theory (POGIL)</p> <p>Rigor Mortis (POGIL extension)</p> <p>Structure of muscle fibers (coloring sheet)</p> <p>Neuromuscular junction and communication between nerves and muscles</p>
<p>Describe the structure and function of the nervous system.</p>	<p>Identify the structures of a neuron.</p> <p>Identify the parts of the brain.</p> <p>Match functions to cell types for glial cells and neurons.</p> <p>Differentiate between sensory, interneuron and motor neuron.</p>	<p>Cells</p> <p>Ions</p> <p>Cell membrane structure</p> <p>Membrane proteins and transport across the membrane (Na<sup>+</sup>/K<sup>+</sup> pump)</p> <p>Diffusion</p> <p>Active Transport vs. Passive Transport</p>	<p>Ch. 9 Test</p> <p>Lab manual diagram labeling practice</p> <p>Action potential graphing whiteboard activity</p> <p>Action Potential POGIL</p> <p>The Nervous system POGIL</p>	<p>Semester 2- Ch. 9</p>	<p>Electrical communication with neurons</p> <p>Communication chemically between neurons</p> <p>Functions of the different types of glial cells.</p> <p>Brain lobe functions</p> <p>Brain disorders</p>

		ATP			<p>Central vs. Peripheral Nervous system</p> <p>Division of the nervous system down to sympathetic and parasympathetic and their roles/impacts on body functions</p>
<p>Describe how you see, hear, smell and taste. What structures are involved in each process? Explain their role in interpreting sensory information from the environment.</p>	<p>When given one of the senses, students can describe how the information is detected by the body and processed.</p> <p>Label a diagram of the eye</p> <p>Label a diagram of the ear.</p> <p>Matching functions to the correct structure</p>	<p>Air pressure</p> <p>Sensory receptors</p> <p>Sensory neurons</p> <p>Understanding how nerves communicate with the brain.</p> <p>Brain lobe functions</p>	<p>Ch. 10 Quiz</p> <p>Ch. 10 Test</p> <p>Lab manual diagram labeling practice</p> <p>Lab 32 Visual Tests</p> <p>The Senses Discussion Questions</p>	Semester 2- Ch. 10	<p>Equalization</p> <p>Visual Acuity</p> <p>Color Blindness</p> <p>Hearing tests</p> <p>Article Analysis Questions: Is Life Better without Pain?</p>

<p>Describe the structures and function of the digestive system. Identify the major organs and their functions.</p>	<p>Label the organs of the digestive system on a diagram.</p> <p>Match the functions to the proper digestive organ.</p>	<p>Organization of living things: atoms to organisms</p> <p>Basic understanding of how food is processed after eating</p>	<p>Ch. 15 Test</p> <p>Fetal pig dissection video</p> <p>Lab manual diagram labeling practice</p> <p>Digestive system poster</p>	<p>Semester 2- Ch. 15</p>	<p>Digestive Enzymes</p> <p>Tooth anatomy</p> <p>Oral Health</p>
<p>Describe the structures and function of the respiratory system.</p>	<p>Label the organs of the respiratory system on a diagram.</p> <p>Match the functions to their organs.</p>	<p>Basic understanding of how breathing works.</p> <p>Cell respiration (importance and use of oxygen in the body)</p> <p>What causes air pressure and movement from high to low pressure</p> <p>Pressure/Volume relationship</p>	<p>Ch. 16 Test</p> <p>Fetal pig dissection video</p> <p>Lab manual diagram labeling practice</p> <p>Respiratory system drawing assignment</p>	<p>Semester 2- Ch. 16</p>	<p>Lung capacity lab</p> <p>Measurements of lung capacity and function</p> <p>Mechanism of breathing based on air pressure and volume relationships</p>
<p>Describe the structure and function of the urinary system.</p>	<p>Label the organs of the urinary system on a diagram.</p> <p>Match the functions to their organs.</p>	<p>Basic understanding of elimination of waste from the body</p> <p>Basic understanding of what urine is and why it is made</p> <p>Homeostasis- maintaining stable</p>	<p>Urinary system worksheet</p> <p>Nephron worksheet</p> <p>Fetal pig dissection video: identifying urinary system components</p>	<p>Semester 2- Ch. 17</p>	<p>Nephron structure and function</p> <p>Filtration of blood</p> <p>Reabsorption of nutrients</p> <p>Secretion of waste</p>

		internal environment in the body	Whiteboard activity: drawing pathway urine takes through kidney and nephron  Lab manual diagram labeling practice: kidney, urinary system		Urinalysis and relationship to diagnostics
Describe the structures and function of the cardiovascular system.	Label the organs of the cardiovascular system on a diagram.  Match the functions to their organs.	Cellular respiration (role of oxygen)  Pressure  Dissolved gases in solution	Ch. 13 Test  Sheep Heart dissection  Lab manual diagram labeling practice  Cardiac 100 Racecourse  CH. 13 Check your recall text questions  Heart Labeling Practice sheet	Semester 2- Ch. 13	Blood pressure activity  EKG graph analysis activity  Vital signs lab  Heart disease: hypertension, heart attacks