

Human Anatomy and Physiology * Quick Reference Pacing Guide * 2024-2025

***Note: This document is meant to be a quick reference of the standards and performance objectives covered each nine weeks.**

For a complete description of the course, standards and detailed performance objectives,

see the [MS College and Career Readiness Standards for Science](#)

1st Term: Aug. 1 - Oct. 4 <i>July 25-26;29-31 - Staff Development Aug. 1 - First Day of School Sept 2 -Labor Day/Holiday Oct. 7-11 - School Holiday/Fall Break Oct. 14 - Staff Development</i>	2nd Term: Oct. 15 - Dec. 20 <i>Nov. 25-29 - Thanksgiving Break Dec. 16 - 20 - Exams Dec. 20 - Reduced Day Dec. 23 - Jan. 3 - Christmas Break</i>	3rd Term: Jan. 7 - Mar 7 <i>Jan. 6 - Staff Development Jan. 7 - Students Return Jan. 20 - MLK Day/Holiday Feb. 17 - Presidents' Day/Holiday March 10 - 14 - Spring Break</i>	4th Term: March 17 - May 23 <i>April 18, 21 - Easter/Holiday *STATE TESTING Window opens mid-April* May 19-23 - Exams May 23 - Reduced Day May 23 - Last Teacher Day</i>
<p>Science and Engineering Practices Introduction to Science Lab Safety; Tools of Science</p> <p><u>Introduction to Human Anatomy and Physiology</u></p> <p><u>Physiological Functions/Anatomical Structures</u> HAP.1.1 - Anatomical terminology HAP.1.2 - Organs and organ systems HAP.1.3 - Interdependence of various body systems</p> <p><u>Cells and Tissues</u> HAP.2.1 - Tissue types HAP.2.2 - Structural organization of cells in tissues; functions of tissues HAP.2.3(enrichment) - cancer treatment medications</p> <p><u>Integumentary System</u> HAP.3.1 - Structures and functions HAP.3.2 - Mechanisms and homeostasis HAP.3.3 - Pathological conditions</p>	<p><u>Skeletal System</u> HAP.4.1 - Structure and function HAP.4.2 - Bones and Skeletal Types HAP.4.3 - Joints and Movement HAP.4.4 - Ossification HAP.4.5 - Mechanisms for homeostasis HAP.4.6 - Pathological conditions HAP.4.7(Enrichment) - develop, model, and test effective treatments for bone disorders*</p> <p><u>Muscular System</u> HAP.5.1 -Structure, function, location HAP.5.2 - Structure and function of the skeletal muscle and motor unit. HAP.5.3 - Molecular muscle contraction and relaxation. HAP.5.4 - Muscles and movements HAP.5.5 - Three types of muscle tissue. HAP.5.6 - Use technology to investigate physiology HAP.5.7 - Pathological conditions</p>	<p><u>Blood</u> HAP.9.1 - Structure, function, and origin of the cellular components/plasma HAP.9.2 - ABO blood groups, Antibodies, Donors/Recipient HAP.9.3 - Pathological conditions HAP.9.4 (Enrichment) - Use an engineering design process to develop effective treatments for blood disorders</p> <p><u>Cardiovascular System</u> HAP.10.1 - Function of Cardiovascular organs HAP.10.2 - Pathway of Blood (pulmonary/systemic) HAP.10.3 - Types of Blood Vessels, Transport and Exchange HAP.10.4 - Demonstrate the role of valves in regulating blood flow. HAP.10.5 - Test stimuli on heart rate/blood pressure HAP.10.6 - Pathological conditions HAP.10.7 (Enrichment) - Develop, model, and test effective treatments for cardiovascular diseases</p>	<p><u>Urinary System</u> HAP.14.1 - Structure/function relation to homeostasis HAP.14.2 - Filtration HAP.14.3 - Urine Composition. HAP.14.4 (Enrichment) - Conduct a urinalysis to compare the composition of urine from various "patients." HAP.14.5 - Develop and use models to illustrate the path of urine through the urinary tract. HAP.14.6 - Analyze the causes and effects of various pathological conditions and other kidney abnormalities</p> <p><u>Digestive System</u> HAP.13.1 - Structure-function relationship in organs of the digestive system. HAP.13.2 - Adaptations and Processing HAP.13.3 - Identify the accessory organs for digestion and describe their function. HAP.13.4 - Experiment to illustrate the necessity of mechanical digestion for efficient chemical digestion.</p>

	<p>HAP.5.8 (Enrichment) - Develop ergonomic devices to prevent muscle fatigue and strain</p> <p><u>Nervous System</u></p> <p>HAP.6.1 - how NS interconnects with the body</p> <p>HAP.6.2 - Neurons and Neuroglial Cells</p> <p>HAP.6.3 - Structure and function of Brain and Spinal cord.</p> <p>HAP.6.4 - Central and Peripheral nervous systems.</p> <p>HAP.6.5 (Enrichment) - Test reflex response rates under varying conditions.</p> <p>HAP.6.6 - Autonomic, sympathetic and parasympathetic nervous systems</p> <p>HAP.6.7 - Structure and function of the special senses .</p> <p>HAP.6.8 - Pathological conditions</p> <p>HAP.6.9 (Enrichment) - Develop, model, and test preventative devices for neurological injuries and/or disorders</p>	<p><u>Respiratory System</u></p> <p>HAP.12.1 - Model functions of organs of the system</p> <p>HAP.12.2 - Adaptations of the Respiratory System</p> <p>HAP.12.3 - Ventilation/Respiration</p> <p>HAP.12.4 (Enrichment) - Develop a model of the mechanisms that support breathing, and illustrate the inverse relationship between volume and pressure in the thoracic cavity.*</p> <p>HAP.12.5 - Pathological conditions</p> <p>HAP.12.6 - Research (e.g., e-cigarettes, environmental pollutants, and changes in inhaled gas composition).</p>	<p>HAP.13.5 - Digestive enzymes/Functions</p> <p>HAP.13.6 - Evaluate the role of hormones in the regulation of hunger and satiety/fullness.</p> <p>HAP.13.7 - Pathological conditions</p> <p>HAP.13.8 (Enrichment) - Develop effective treatments for gastrointestinal diseases</p>
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HAP. 7 Endocrine System and HAP.11 Lymphatic System can be incorporated throughout

****Dwarfism-Skeletal**

****Graves/Obesity- Senses/Integumentary**

****Lymphatic system in relation to cardiovascular system**