

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
<p>Unit 1- Body Systems and Levels of Organization</p> <p>Week 1</p>	<p>Key summary</p> <p>HS-AP1-2 .Develop and use a model to illustrate the hierarchical organization of structural body systems that provide specific functions within the Human Body</p> <p>HS-AP1-5. Compare and contrast the major organ systems and describe their basic functional importance.</p>	<p><u>Phenomenon</u> Observe the Human Body at different levels with different systems dissected.</p> <p><u>Activities</u> Notes over levels of organization Levels of Organization Card Sort Body Systems Stations Body Systems Paper Dolls Project</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.3: Planning and Carrying Out Investigations SEP.2: Developing and Using Models</p> <p><u>CCC (Crosscutting Concepts)</u> CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Anatomy ● Physiology ● Gross Anatomy ● Micro Anatomy ● Molecular ● Cellular ● Organ ● Organ System ● Integumentary ● Skeletal ● Muscular ● Nervous ● Endocrine ● Cardiovascular ● Lymphatic ● Digestive ● Respiratory ● Reproductive 	<p>Quiz over body systems and organization</p>

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<p>Unit 1- Body Systems and Levels of Organization</p> <p>Week 2</p>	<p>Key summary</p> <p>HS-AP1-1. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis in humans.</p> <p>HS-AP7-5. Construct an explanation for maintaining blood sugar levels via endocrine and exocrine functions of the pancreas.</p>	<p><u>Phenomenon</u> Observe and Experience how the human heart rate responds to stimulus</p> <p><u>Activities</u> Notes on Homeostasis Homeostasis Research Activity Homeostasis Heartbeat Lab Feedback Loops Activity</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.3: Planning and Carrying Out Investigations SEP.2: Developing and Using Models</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Stability ● Dynamic Equilibrium ● Homeostasis ● Negative feedback ● Positive Feedback 	<p>Homeostasis Lab Quiz</p> <p>Case Study Review</p>

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<p>Unit 1- Body Systems and Levels of Organization.</p> <p>Weeks 3 and 4</p>	<p>Key summary</p> <p>HS-AP1-5. Compare and contrast the major organ systems and describe their basic functional importance.</p> <p>HS-AP1-6. Identify anatomical terms (including anatomical orientation, regions, planes) on a diagram, model, or through dissection.</p>	<p><u>Phenomenon</u> Watch or read medical scenario where all of the terminology we have yet to learn is used</p> <p><u>Activities</u> Body regions notes Body Regions flash cards Online simulator practice Body Regions posters Play-doh dissection lab Unit Review</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.3: Planning and Carrying Out Investigations SEP.2: Developing and Using Models</p> <p><u>CCC (Crosscutting Concepts)</u> CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Dorsal ● Ventral ● Cranial ● Spinal ● Thoracic ● Sagittal ● Midsagittal Plane ● Frontal or Coronal ● Transverse ● Superior ● Inferior ● Posterior ● Anterior ● Dorsal ● Ventral ● Proximal ● Distal ● Medial ● Lateral ● Superficial ● Deep 	<p>Post lab Quiz Unit Test</p>

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<p>Unit 2- Tissues and Integument.</p> <p>Week 5</p>	<p>Key summary</p> <p>HS-AP1-3. Compare and contrast the relationships among the various tissue types as well as the molecular and cellular composition of these tissues.</p> <p>HS-AP1-4. Compare and contrast the histological structure between the 4 basic tissue types.</p>	<p><u>Phenomenon</u> Microscopy of 4 basic tissue types</p> <p><u>Activities</u> Microscopy and Terminology Introduction Tissues Notes Domino Terminology Tissues Review</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.3: Planning and Carrying Out Investigations SEP.2: Developing and Using Models</p> <p><u>CCC (Crosscutting Concepts)</u> CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Epithelial ● Connective ● Muscle ● Nervous ● Simple ● Stratified ● Columnar ● Cuboidal ● Squamous ● Pseudostratified ● Transitional ● Dense Connective Tissue ● Loose Connective Tissue ● Osteocytes ● Cartilage ● Neuron ● Axon ● Dendrite ● Totipotent ● Pluripotent ● Multipotent 	<p>Tissues Quiz</p>

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<p>Unit 2- Tissues and Integument</p> <p>Week 6 and 7</p>	<p>Key summary</p> <p>HS-AP2-1. Analyze the structural characteristics and functional importance of the integumentary system to maintain homeostasis of the body.</p> <p>HS-AP2-2. Evaluate and explain the consequence of injury (e.g., Burns) and/or disease (e.g., skin cancer, vitiligo) to the functionality of the integumentary system.</p>	<p><u>Phenomenon</u> Skin Disorders</p> <p><u>Activities</u> Disorders reading Skin notes Skin lab with fingerprinting Disorders notes Case Studies Choiceboard Project</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.3: Planning and Carrying Out Investigations SEP.2: Developing and Using Models</p> <p><u>CCC (Crosscutting Concepts)</u> CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Integument ● Glands ● Sebaceous ● Arrector Pilli ● Epidermis ● Dermis ● Keratinocytes ● Melanocytes ● Langerhans cells ● Merkel cells ● Papillary layer ● Reticular layer ● Hypodermis 	<p>Choice Board Project</p>

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<p>Unit 3- The Muscular System</p> <p>Week 8</p>	<p>Key summary</p> <p>HS-AP4-1. Compare and contrast between the structural and functional characteristics of skeletal, cardiac, and smooth muscle</p> <p>HS-AP4-4. Describe how a neuromuscular junction functions. Design an experiment to determine how motor recruitment influences the force and velocity of contraction</p> <p>HS-AP4-5. Use a diagram, model, or dissection to identify major muscle groups</p>	<p><u>Phenomenon</u> Observe the muscular system through body builders</p> <p><u>Activities</u> Body Building Video/Reading Muscles to Know Notes Muscle ID activity Muscle Fatigue Lab</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Smooth ● Cardiac ● Skeletal ● Fascicle ● Sarcomere ● Endomysium ● Perimysium ● Epimysium ● Abduction ● Adduction ● Extension ● Flexion 	<p>Muscle ID Quiz</p>

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<p>Unit 3 The Muscular System</p> <p>Week 9, could go into week 10</p>	<p>Key summary</p> <p>HS-AP4-2. Develop a model to illustrate the components of a muscle fiber and how they interact in contraction and relaxation.</p> <p>HS-AP4-3. Conduct an investigation to analyze the molecular processes involved in sliding filament models to explain and identify changes in disease-related illnesses.</p> <p>HS-AP4-6. Compare and contrast between isotonic and isometric contractions and construct an explanation for the causes of hypertrophy and atrophy of muscles.</p>	<p><u>Phenomenon</u> Muscle Fatigue Exercise</p> <p><u>Activities</u> Muscle Action Lab Muscle Contraction Notes Muscle Fiber Anatomy Review Muscle ID Review Muscle Diseases and Disorders Notes Clinic Activity Muscle Dominoes Muscle Review</p> <p><u>DCI (Disciplinary Core Ideas)</u></p> <p><u>SEPS (Science and Engineering Practices)</u></p> <p><u>CCC (Crosscutting Concepts)</u></p>	<ul style="list-style-type: none"> ● Neuromuscular junction ● Neurotransmitters ● sarcoplasmic reticulum ● Actin ● Myosin ● neuromuscular junction ● Sarcolemma ● Tetanus ● Isotonic ● Isometric 	<p>Muscle Test</p>

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<p>Unit 4- The Skeletal System</p> <p>Week 10</p>	<p>Key summary</p> <p>HS-AP3-1. Develop a model to illustrate the microscopic structure, development of, maintenance of, and function of compact and spongy bone.</p> <p>HS-AP3-2. Observe the characteristics of a bone from the axial or appendicular skeleton. Then construct an argument to support how the structure determines the function</p>	<p><u>Phenomenon</u> Forensic ID Career Connection</p> <p><u>Activities</u> Skeletal System Introduction Notes Forensics Lab Bones to Know Notes Bone Terminology Stations Build a Hand Joints Introduction Bone ID Quiz</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Hematopoiesis ● Compact Bone ● Spongy Bone ● Diaphysis ● Epiphysis ● Periosteum ● Endosteum ● Medullary Cavity ● Trabeculae ● Osteon ● Osteocytes ● Long Bone ● Short Bone ● Flat Bone ● Round Bone ● Irregular Bone ● Axial ● Appendicular 	<p>Bone ID Quiz</p>

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<p>Unit 4- The Skeletal System</p> <p>Week 11</p>	<p>Key summary</p> <p>HS-AP3-1. Develop a model to illustrate the microscopic structure, development of, maintenance of, and function of compact and spongy bone.</p> <p>HS-AP3-5. Compare and contrast the major types of joints and construct an argument how these structural components influence functional mobility and stability.</p>	<p><u>Phenomenon</u> Movement Activity for joint classification</p> <p><u>Activities</u> Bones on a Cellular Level Notes Bone Cell POGIL Build-A-Joint Activity Bone Formation and Development Notes “The Aging Hand” Reading</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Synarthroses ● Amphiarthroses ● Diarthroses ● Synovial ● Ball and Socket ● Hinge ● Pivot ● Saddle ● Gliding (plane) ● Condylod ● Ossification ● Osteoblasts ● Osteoclasts ● Osteocytes 	<p>Skeletal System Unit Test</p>

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<p>Unit 4- The Skeletal System</p> <p>Week 12</p>	<p>Key summary</p> <p>HS-AP3-1. Develop a model to illustrate the microscopic structure, development of, maintenance of, and function of compact and spongy bone.</p> <p>HS-AP3-2. Observe the characteristics of a bone from the axial or appendicular skeleton. Then construct an argument to support how the structure determines the function</p> <p>HS-AP3-3. Locate and identify individual bones of the axial and appendicular skeleton and unique features of bones.</p>	<p><u>Phenomenon</u> Forensic ID Career Connection</p> <p><u>Activities</u> Bone Disorders Notes Osteoporosis Activity Bone Breaks and Classification Break ID Clinic Bone ID Game</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Frontal ● Temporal ● Parietal ● Occipital ● Sphenoid ● Nasal ● Zygomatic ● Maxilla ● Mandible ● Hyoid ● Ribs ● Sternum ● Vertebrae ● Scapula ● Clavicle ● Humerus ● Radius ● Ulna ● Carpal ● Metacarpal ● Phalange ● Femur ● Patella ● Tibia ● Fibula ● Tarsals ● Metatarsals 	<p>Skeletal System Unit Test</p>

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<p>Unit 4- The Skeletal System</p> <p>Week 13 and 14</p>	<p>Key summary</p> <p>HS-AP3-2. Observe the characteristics of a bone from the axial or appendicular skeleton. Then construct an argument to support how the structure determines the function</p> <p>HS-AP3-4 Compare and contrast the different types of bone (e.g., long, short, flat, and irregular</p>	<p><u>Phenomenon</u> Forensic ID Career Connection</p> <p><u>Activities</u> Bone Classification Flash Cards Skeletal System Posters Review Board Game Review Packet Bone and Muscle Connection (bring in content from last unit)</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Long Bone ● Short Bone ● Flat Bone ● Round Bone ● Irregular Bone ● Axial ● Appendicular 	<p>Skeletal System Test</p>

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<p>Unit 5- The Nervous System</p> <p>Week 15</p>	<p>Key summary</p> <p>HS-AP5-1. Develop a model that illustrates the structural components and functional subdivisions of the nervous system.</p> <p>HS-AP5-3. Compare and contrast the actions, origins, and pathways of nerve fibers in the parasympathetic and sympathetic divisions of the autonomic nervous system.</p> <p>HS-AP5-5. Identify the various classification of neurotransmitters and their associated functions.</p>	<p><u>Phenomenon</u> Brain Scan Imaging/Video</p> <p><u>Activities</u> Brain Scan Introduction Activity Nervous System Introduction Notes Nervous System Coloring Sheet Action Potential Activity Neurotransmitters Charts Brain Anatomy Notes Brain Anatomy Coloring Sheet</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Stimuli ● Integration ● Central Nervous System ● Peripheral Nervous System ● Autonomic Nervous System ● Sympathetic ● Parasympathetic ● Sensory ● Motor ● Afferent ● Efferent ● Glial Cells ● Neurons ● Myelin sheath ● Nodes of ranvier ● Action Potential ● Polarization ● Neurotransmitter 	<p>Nervous System Unit Test</p>

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<p>Unit 5- The Nervous System</p> <p>Week 16</p>	<p>Key summary</p> <p>HS-AP5-1. Develop a model that illustrates the structural components and functional subdivisions of the nervous system.</p> <p>HS-AP5-2. Observe and identify the structure and function of the various neurons and neuroglia. Explain how the varying structures determine the specified function.</p> <p>HS-AP5-4. Identify and model how action potentials are generated, via neurotransmitters, the ions and channel protein involved, and the basic structural and functional aspects which allow for synaptic connection.</p>	<p><u>Phenomenon</u> Brain Scan Imaging/Video</p> <p><u>Activities</u> Brain Hats Nervous System Diseases Notes Concussion Activity Virtual Dissection Action Potential Review Activity</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Cerebrum ● Corpus Callosum ● Brain Stem ● Cerebellum ● Contusion ● Concussion ● Hemorrhage ● Edema 	<p>Nervous System Unit Test</p>

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
<p>Unit 5- The Nervous System</p> <p>Week 17</p>	<p>Key summary</p> <p>HS-AP5-1. Develop a model that illustrates the structural components and functional subdivisions of the nervous system</p> <p>HS-AP5-3. Compare and contrast the actions, origins, and pathways of nerve fibers in the parasympathetic and sympathetic divisions of the autonomic nervous system.</p> <p>HS-AP5-4. Identify and model how action potentials are generated, via neurotransmitters, the ions and channel protein involved, and the basic structural and functional aspects which allow for synaptic connection</p> <p>HS-AP5-5. Identify the various classification of neurotransmitters and their associated functions.</p>	<p><u>Phenomenon</u> Brain Scan Imaging/Video</p> <p><u>Activities</u> Nervous System Review Packet Action Potential Creative Mini-Project Neurotransmitter Matching</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Nodes of ranvier ● Action Potential ● Polarization ● Neurotransmitter ● Afferent ● Efferent ● Central Nervous System ● Perepheral Nervous System ● Autonomic Nervous System ● Sympathetic ● Parasympathetic ● Sensory ● Motor 	<p>Nervous System Unit Test</p>

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<p>Unit 6- Special Senses</p> <p>Week 1</p>	<p>Key summary</p> <p>HS-AP6-1. Compare and contrast the somatic, visceral, and special senses, the prominent sensory receptor types of each, and their functional operation.</p> <p>HS-AP6-2. Make and/or use a model of the anatomy of the eye; then construct an explanation for hyperopia, myopia and astigmatism using the model.</p>	<p><u>Phenomenon</u> Experience the Senses</p> <p><u>Activities</u> Experience the Senses Activity Senses Introduction Notes Eye Anatomy Notes Eye Diagram Coloring Sheet Eye Physiology Notes Near/Far Sightedness Activity Glasses POGIL</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Mechanoreceptors ● Proprioceptors ● Chemoreceptors ● Photoreceptors ● Conjunctiva ● Sclera ● Lens ● Choroid ● Retina ● Iris ● Pupil ● Optic Nerve ● Optic Disc ● Fovea Centralis ● Photopupillary Response ● Refraction ● Accommodation ● Myopia ● Hyperopia ● Astigmatism 	<p>Eye Anatomy Quiz</p>

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
<p>Unit 6- Special Senses</p> <p>Week 2</p>	<p>Key summary</p> <p>HS-AP6-1. Compare and contrast the somatic, visceral, and special senses, the prominent sensory receptor types of each, and their functional operation.</p> <p>HS-AP6-3.- Make and/or use a model of the anatomy of the ear. Construct an explanation for sensorineural and conductive hearing loss using the basic structure and function of the ear.</p>	<p><u>Phenomenon</u> Experience the Senses</p> <p><u>Activities</u> Anatomy of the Ear Notes Ear Coloring Sheet Physiology of the Ear Notes Hearing/Equilibrium Activity Supertaster Lab Smell&Taste Lab Senses Review Senses Jeopardy Senses Quiz</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models</p> <p>SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect</p> <p>CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Pinna ● Ceruminous Glands ● Canal ● Ossicles ● Pharyngotympanic tube ● Cochlea ● Semicircular Canals ● Vestibule ● Spiral Organ of Corti ● Gustatory ● Olfactory 	<p>Senses Quiz</p>

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<p>Unit 7- The Endocrine System</p> <p>Weeks 3 and 4</p>	<p>Key summary</p> <p>HS-AP7-1. Investigate the structure and function of the endocrine system and develop models showing how changes in prominent hormone levels impact homeostasis throughout the body systems.</p> <p>HS-AP7-2. Assess the structural and functional differences between an endocrine gland and an exocrine gland.</p> <p>HS-AP7-3. Compare and contrast the hormones of the hypothalamus-pituitary complex. Analyze the function of each hormone and connect them to feedback signals for the gonads, thyroid, and adrenal cortex.</p> <p>HS-AP7-4. Construct an explanation to show the impact of stress on the hypothalamuspituitary complex, sympathetic nervous system, and the adrenal medulla.</p> <p>HS-AP7-5. Construct an explanation for maintaining blood sugar levels via endocrine and exocrine functions of the pancreas.</p>	<p><u>Phenomenon</u> Endocrine Diseases and Disorders Preview</p> <p><u>Activities</u> Intro to the Endocrine System Notes Endocrine Activity Stations Endocrine Glands Notes Balancing Blood Sugar Activity Hormone Control Chart Endocrine Disorders Notes Endocrine Clinic Activity Open Note Test</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Endocrine ● Exocrine ● Hormone ● Steroid ● Prostaglandin ● Pituitary ● Thyroid ● Adrenal Glands ● Testes ● Ovaries ● Pineal Gland ● Thymus ● Pancreas Ovaries ● Melatonin ● TSH ● ACTH ● FSH ● LH ● ADH ● Oxytocin ● Calcitonin ● Parathyroid Hormone ● Thymosin ● Catecholamines ● Norepinephrine ● Epinephrine ● Glucagon ● Insulin ● Estrogen ● Progesterone ● Testosterone 	<p>Endocrine Unit Test</p>

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<p>Unit 8- Blood and the Cardiovascular System</p> <p>Week 5</p>	<p>Key summary</p> <p>HS-AP8-1. Perform an investigation to identify the composition and function of whole blood components, and the role they play in maintaining homeostasis.</p>	<p><u>Phenomenon</u> Inquiry Lab</p> <p><u>Activities</u> Blood Inquiry Lab Blood Composition Notes Article Reading White Blood Cell Types Notes Cell Sorting Activity Cell Type Quiz</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models</p> <p>SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect</p> <p>CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Plasma ● Albumin ● Hematopoiesis ● Erythrocytes ● Hemoglobin ● Hematocrit ● Leukocytes ● Neutrophils ● Eosinophils ● Basophils ● Lymphocytes ● Monocytes ● Thrombocytes ● Megakaryocytes 	<p>- Blood Cell Type Quiz</p>

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<p>Unit 8- Blood and the Cardiovascular System</p> <p>Week 6 and 7</p>	<p>Key summary</p> <p>HS-AP8-1. Perform an investigation to identify the composition and function of whole blood components, and the role they play in maintaining homeostasis.</p> <p>HS-AP8-2. Conduct an investigation to learn about the ABO blood type. Discuss how the surface-antigens and plasma antibodies allow and/or disallow for certain blood transfusions.</p>	<p><u>Phenomenon</u> CSI Blood Typing Clip</p> <p><u>Activities</u> Blood Disorders Notes Blood Disorders Clinic Activity Blood Typing Notes Blood Typing POGIL Blood Typing Agglutination Lab Murder Mystery Lab Blood Typing Review</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models</p> <p>SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect</p> <p>CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Antibody ● Antigen ● Erythroblastosis Fetalis ● Polycythemia ● Anemia ● Thalassemia ● Myeloma ● Leukemia ● Agglutination ● Rhesus Factor ● Universal Donor ● Universal Acceptor 	<p>Blood Quiz</p>

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
<p>Unit 8- Blood and the Cardiovascular System</p> <p>Week 8</p>	<p>Key summary</p> <p>HS-AP8-3. Investigate the primary structures of the cardiovascular system and explore their functional importance to maintaining homeostasis.</p> <p>HS-AP8-4. Create a model of vasoconstriction and vasodilation to demonstrate the structural and functional difference between arteries and veins.</p> <p>HS-AP8-5. Use a diagram and/or a model of the heart to illustrate the external and internal structures, the vessels entering and exiting, unidirectional blood flow and how the heart supports pulmonary and cardiac circulation.</p>	<p><u>Phenomenon</u> Heart Beat/Monitoring Medical Show Clips 3-D Printed Hearts</p> <p><u>Activities</u> Heart Anatomy Notes Heart Coloring Sheet Heart Physiology Notes Heart Physiology Card Sort Heart POGIL Build-A-Heart Activity Heart Dissection Virtual Lab</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models</p> <p>SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect</p> <p>CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Epicardium ● Myocardium ● Endocardium ● Apex ● Left Atrium ● Left Ventricle ● Right Atrium ● Right Ventricle ● Bicuspid ● Tricuspid ● Pulmonary Semilunar Valve ● Aortic Semilunar Valve ● Aorta ● Pulmonary Artery ● Pulmonary Vein ● Vena Cava ● Chordae Tendinae 	<p>Post-Lab Quiz</p>

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
<p>Unit 8- Blood and the Cardiovascular System</p> <p>Week 9</p>	<p>Key summary</p> <p>HS-AP8-5. Use a diagram and/or a model of the heart to illustrate the external and internal structures, the vessels entering and exiting, unidirectional blood flow and how the heart supports pulmonary and cardiac circulation.</p> <p>HS-AP8-6. Construct a model of hypertension to model the regulation of the cardiac cycle.</p> <p>HS-AP8-7. Design an experiment to illustrate how the cardiovascular system maintains homeostasis.</p>	<p><u>Phenomenon</u> Heart Beat/Monitoring Medical Show Clips 3-D Printed Hearts</p> <p><u>Activities</u> Veins and Arteries Notes Cardiovascular Virtual Lab Blood Pressure Reading Cardiovascular Disorders Notes Blood Disorders Informational Pamphlets Hypertension Webquest Cardiovascular Disorders Clinic</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models</p> <p>SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect</p> <p>CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Artery ● Vein ● Capillary ● Hypertension ● Thrombosis ● Myocardial Infarction ● Dysrhythmias ● Endocarditis ● Pericardial Effusion 	<p>Unit Project</p>

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
<p>Unit 8- Blood and the Cardiovascular System</p> <p>Week 10</p>	<p>Key summary</p> <p>HS-AP8-1. Perform an investigation to identify the composition and function of whole blood components, and the role they play in maintaining homeostasis.</p> <p>HS-AP8-3. Investigate the primary structures of the cardiovascular system and explore their functional importance to maintaining homeostasis.</p> <p>HS-AP8-4. Create a model of vasoconstriction and vasodilation to demonstrate the structural and functional difference between arteries and veins.</p> <p>HS-AP8-5. Use a diagram and/or a model of the heart to illustrate the external and internal structures, the vessels entering and exiting, unidirectional blood flow and how the heart supports pulmonary and cardiac circulation.</p> <p>HS-AP8-7. Design an experiment to illustrate how the cardiovascular system maintains homeostasis.</p>	<p><u>Phenomenon</u> Heart Beat/Monitoring Medical Show Clips</p> <p><u>Activities</u> Choice Board Project</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models</p> <p>SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect</p> <p>CC.6: Structure and Function</p>	<p>All unit 8 vocabulary</p>	<p>Choice Board Project</p>

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
<p>Unit 9- The Immune System</p> <p>Week 11</p>	<p>Key summary</p> <p>HS-AP9-1. Identify the primary structural and functional components of the lymphatic system.</p> <p>HS-AP9-2. Analyze the relationship of the components of the lymphatic system with bone marrow and the thymus gland.</p> <p>HS-AP9-3. Differentiate between innate and acquired immunity.</p>	<p><u>Phenomenon</u> Cellular Level Immune Video</p> <p><u>Activities</u> Intro Terminology Activity Intro to the Immune System Notes Phagocytes and Inflammation Webquest Organs and Antibodies Notes Organs and Antibodies Coloring Virus Notes Killer Flu Virtual Lab</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Pathogens ● Tonsils ● Thymus Gland ● Bone Marrow ● Spleen ● Lymph Node ● Innate ● Acquired ● Active Immunity ● Passive Immunity ● Symbiotic Bacteria ● Interferon ● Histamine ● Complement ● Inflammation ● Antibodies 	<p>Unit Quest</p>

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
<p>Unit 9- The Immune System</p> <p>Weel 11</p>	<p>Key summary</p> <p>HS-AP9-3. Differentiate between innate and acquired immunity.</p> <p>HS-AP9-4. Construct an explanation for defense against foreign pathogens using cellular and non-cellular components of the immune response.</p>	<p><u>Phenomenon</u> Cellular Level Immune Video</p> <p><u>Activities</u> Innate v. Acquired Card Sort Immune Disorders notes Immunology Virtual Lab Immune Disorders Clinic Activity Unit Review</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models</p> <p>SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect</p> <p>CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Virus ● Bacteriophage ● Vaccine ● Allergy ● Autoimmune ● Lupus ● Innate Immunity ● Acquired Immunity ● Active Immunity ● Passive Immunity 	<p>Unit Quest</p>
<p>Unit 10- The</p>	<p>Key summary</p>	<p><u>Phenomenon</u></p>	<ul style="list-style-type: none"> ● respiratory mucosa 	<p>Lung Model Post Quiz</p>

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
Respiratory System Week 13	<p>HS-AP11-1. Identify and locate major organs of the respiratory system and discuss their functions. Differentiate between the components of the upper and lower respiratory systems.</p> <p>HS-AP11-2. Observe the anatomical structures and explain the physiological processes involved in inspiration & expiration.</p>	<p>View Lung Inflation/Breathing Exercises</p> <p><u>Activities</u> Respiratory System Base Word Activity Respiratory Anatomy Notes Respiratory Anatomy Coloring Respiratory Physiology Notes Altitudes Effect on Breathing Article Building Lung Models Lung Volume Notes Lung Volume Chart POGIL</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Cilia ● Palate ● Sinuses ● Pharynx ● Tonsils ● Larynx ● Trachea ● Bronchi ● Alveoli ● Pleura ● Diaphragm ● Inspiration ● Expiration ● Gas Exchange 	Unit Test
Unit 10- The Respiratory	Key summary	<p><u>Phenomenon</u> View Lung Inflation/Breathing Exercises</p>	<ul style="list-style-type: none"> ● Gas Exchange ● Oxyhemoglobin 	Unit Test

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
System Week 14	<p>HS-AP11-3. Analyze data to investigate how percentages and partial pressure gradients of oxygen and carbon dioxide impact net gas exchange.</p> <p>HS-AP11-4. Construct an explanation for maintaining blood pH via specialized carbon dioxide receptors and the respiratory response.</p>	<p>Activities Respiration Escape Room Oxygenation Notes Blood pH POGIL Respiratory Disorders Notes Respiratory Disorders Clinic Activity Vaping Research Activity Unit Review</p> <p>DCI (Disciplinary Core Ideas) LS1.A: Structure and Function</p> <p>SEPS (Science and Engineering Practices) SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p>CCC (Crosscutting Concepts) CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Bicarbonate Ions ● Hypoxia ● Cyanosis ● Surfactant 	
Unit 11- Digestive and Urinary System	Key summary	Phenomenon Length of the Digestive System	<ul style="list-style-type: none"> ● Alimentary canal ● Ingestion ● Digestion 	Post Lab Station Quiz Unit Test

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
Weeks 15 and 16	<p>HS-AP10-1. Identify and locate major and accessory organs of the digestive system and investigate their physiological functions.</p> <p>HS-AP10-2. Construct an explanation for enzymes involved in the processing of, digestion of and absorbance of macromolecules.</p> <p>HS-AP10-3. Compare and contrast mechanical and chemical digestion</p> <p>HS-AP10-4. Differentiate between metabolic and respiratory acidosis and alkalosis.</p>	<p>Activities Digestive System Anatomy Notes Digestive System Anatomy Coloring Digestive System Enzyme Webquest Macromolecules Article Reading Digestion Physiology Lab Stations Fecal Transplant Reading Digestive Disorders Notes Acidosis and Alkilosis Comparison Chart Digestive Disorders Pamphlets</p> <p>DCI (Disciplinary Core Ideas) LS1.A: Structure and Function</p> <p>SEPS (Science and Engineering Practices) SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p>CCC (Crosscutting Concepts) CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Absorption ● Elimination ● Bolus ● Chyme ● Stomach ● Large Intestine ● Small Intestine ● Appendix ● Liver ● Gallbladder ● Pancreas ● Carbohydrate ● Lipid ● Protein ● Nucleic Acid ● Acidosis ● Alkalosis ● Constipation ● Diarrhea ● Jaundice ● Emesis 	
Unit 11- Digestive and Urinary System	<p>Key summary</p> <p>HS-AP10-1. Identify and locate major and accessory organs of the</p>	<p>Phenomenon Urine Color and Composition</p> <p>Activities</p>	<ul style="list-style-type: none"> ● Kidney ● Ureter ● Bladder ● Urethra 	Unit Test

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
Week 17 and 18	<p>digestive system and investigate their physiological functions.</p> <p>HS-AP12-1. Identify and locate major organs of the urinary system and discuss their functions.</p> <p>HS-AP12-2. Observe and identify the structures of the kidney; then construct an explanation for maintaining blood volume via kidney function.</p> <p>HS-AP12-3. Develop a model of the nephron to explore its structural components, associated hormones, and the functional processes of filtration, excretion, secretion, and reabsorption.</p>	<p>Digestive System Review Dominoes Urinary System Anatomy Notes Urinary System Anatomy Coloring Urinary Physiology Notes Kidney Function POGIL Kidney Physiology Notes Unit Review</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Renal Cortex ● Renal Medulla ● Renal Pelvis ● Excretion ● Reabsorption ● Secretion ● Filtration 	
<p>Unit 12- The Reproductive System</p> <p>Week 19</p>	<p>Key summary</p> <p>HS-AP13-1. Identify and locate major and accessory organs of the</p>	<p><u>Phenomenon</u> Stages of Embryonic Development</p> <p><u>Activities</u> Reproductive System Terminology</p>	<ul style="list-style-type: none"> ● Testes ● Scrotum ● Epididymis ● Vas Deferens ● Seminal Vessicles 	<p>Anatomy Review/Physiology Introduction Stations Quiz</p> <p>Unit Test</p>

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
	<p>female and male reproductive systems and discuss their functions.</p> <p>HS-AP13-2. Create a diagram or model to analyze the role of hormones in the male and female reproductive system.</p> <p>HS-AP13-3. Describe how spermatozoa move through the female reproductive tract and describe the process of fertilization.</p>	<p>Anatomy of the Reproductive System Reproductive System Coloring Sheet Anatomy Review/Physiology Introduction Stations</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Prostate ● Bulbourethral Glands ● Penis ● Erectile Tissue ● Gametes ● Ovaries Oocyte ● fallopian tubes ● Fimbriae ● Uterus ● Cervix ● Vagina ● Vulva 	
<p>Unit 12- The Reproductive System Week 20</p>	<p>Key summary</p> <p>HS-AP13-4. Construct an explanation of the rise of the three primary germ layers via zygote</p>	<p><u>Phenomenon</u> Stages of Embryonic Development</p> <p><u>Activities</u> Menstruation POGIL Embryonic Development Notes</p>	<ul style="list-style-type: none"> ● Fertilization ● Implantation ● Ovulation ● Ejaculation ● Zygote ● Blastocyst 	<p>Unit Test</p>

Period	Standards and Performance Expectations	Suggested Activities and Resources 3D Dimensions	Critical Vocabulary	Assessments
	<p>creation, blastocyst development and gastrulation process.</p> <p>HS-PS13-5. Describe the stages of embryonic development after gastrulation, up to the birth of a baby</p>	<p>Embryonic Development Worksheet Pregnancy Guided Learning Fetal Statistics Graphing Fetal Development/Birth Video</p> <p><u>DCI (Disciplinary Core Ideas)</u> LS1.A: Structure and Function</p> <p><u>SEPS (Science and Engineering Practices)</u> SEP.2: Developing and Using Models</p> <p>SEP.3: Planning and Carrying Out Investigations</p> <p><u>CCC (Crosscutting Concepts)</u> CC.2: Cause and Effect</p> <p>CC.6: Structure and Function</p>	<ul style="list-style-type: none"> ● Gastrulation ● Embryo ● Fetus ● Endoderm ● Ectoderm ● Mesoderm 	