

Grade Level(s) <u>HS</u>	Course <u>Anatomy and Physiology</u>	Date Last Revised <u>January 2010</u>
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Pacing <i>Year, Month or Week (length of time)</i>	Curriculum Focus				Instructional Strategies & Activities <i>Interventions, accommodations, technology integration (required & supplemental materials)</i>	Resources <i>Various resources used to support student learning (i.e.), technology, media, required & supplemental materials.</i>	Assessments <i>Types: classroom, rubrics, common grade level, formative, subjective, evidence used to measure performance & skills</i>
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Weeks 1-3 of 12		Introduction to the body. Anatomical terms	<p>I will use anatomical terms to describing the body.</p> <p>I will explain the difference between anatomy and physiology.</p> <p>I will describe the levels of organization in organisms.</p> <p>I will describe how homeostasis allows the systems to work together.</p> <p>I will demonstrate the proper use of microscopes.</p>	<ul style="list-style-type: none"> • Anatomy • Physiology • Levels of organization • Homeostasis • Axial • Appendicular • Supine • Prone • Anterior • Posterior • Proximal • Distal • Superficial • Deep • Homeostasis 	<p>Alien dissection</p> <p>Labeled diagrams of organs</p> <p>Labeled diagrams of bones</p> <p>Body change lab</p> <p>Microscopic views of body tissues</p> <p>Body system levels of organization charts</p> <p>Students knowledge of body parts</p> <p>Adult knowledge of body parts</p>	<ul style="list-style-type: none"> • Play-do • Diagrams of body • Microscopes • Text book- Structure and Function of the Human Body 	<ul style="list-style-type: none"> • Tests • Quizzes • Article summaries
		Body regions/cavities	I will be able to describe and label the basic organs of the basic body systems.	<ul style="list-style-type: none"> • Brain • Spinal cord • Esophagus • Lung • Heart • Liver • Kidney • Pancreas • Gallbladder • Large intestine • Ureter • Small intestine • Diaphragm • Stomach • Urinary bladder 	<p>Body system charts/posters with key organs and functions</p> <p>Design labs of each system, to test basic principals.</p>		<p>Posters with body systems</p> <p>Lab design and write up</p>

			<p>I will be able to describe the overall function of 12 major systems.</p>	<ul style="list-style-type: none">• Digestive system• Skeletal system• Integumentary system• Urinary system• Muscular system• Nervous system• Endocrine system• Circulatory system• Lymphatic system• Respiratory system• Reproductive system• Excretory system			
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Week 7-9		The Muscular system	<p>I will distinguish between voluntary and involuntary muscle movements.</p> <p>I will distinguish between the three types of muscle and their function and location.</p> <p>I will describe how a muscle movement occurs using the terms tendons, origin and insertion.</p> <p>I will explain how synergists and antagonist work to move the body.</p> <p>I will describe the basic functions of the muscular system.</p> <p>I will explain the sliding filament theory.</p> <p>I will explain what happens when muscles are repeatedly used and how the energy is replenished.</p> <p>I will explain how paralysis is skeletal and nervous.</p> <p>I will demonstrate how the all or none and threshold stimulus makes a muscle move.</p> <p>I will explain the difference in endurance and aerobic training.</p> <p>I will describe carpal tunnel and explain how people can help prevent it.</p> <p>I will show how the muscle movements affect the body.</p>	<p>Voluntary muscle</p> <p>Involuntary muscle</p> <p>Skeletal muscle</p> <p>Cardiac muscle</p> <p>Smooth muscle</p> <p>Origin</p> <p>Tendon</p> <p>Insertion</p> <p>Bursae</p> <p>Antagonist</p> <p>Synergist</p> <p>Posture</p> <p>Hypothermia</p> <p>Sliding filament theory</p> <p>Fatigue</p> <p>Oxygen debt</p> <p>Paralysis</p> <p>Threshold stimulus</p> <p>All or none</p> <p>Endurance training</p> <p>Aerobic training</p> <p>Carpal tunnel</p> <p>Flexion</p> <p>Extension</p> <p>Abduction</p> <p>Adduction</p> <p>Rotation</p> <p>Supination</p> <p>Pronation</p> <p>Dorsiflexion</p> <p>Plantar flexion</p>	<p>Voluntary and involuntary muscle activity</p> <p>Microscopic analysis of muscles.</p> <p>Dance routine explaining muscle movements.</p> <p>Diagramming of sliding filaments –3 D creation</p> <p>Posters on muscle system function</p> <p>Aerobic/anaerobic lab creation</p> <p>Sculpted muscle on fake skeleton</p> <p>Twitch/Reflex lab</p> <p>Carpal tunnel research/exercises to prevent while on computer</p>	<p>Dance routine</p> <p>3-d diagrams of sliding filament</p> <p>Aerobic/anaerobic lab creation and analysis</p> <p>Carpal tunnel brochure</p>

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Week 9-12

		<p>Nervous system</p>	<p>I will describe how the nervous system uses homeostasis to maintain the body.</p> <p>I will compare the use of the nervous system and the endocrine system.</p> <p>I will draw and label the neuron explaining the various parts function.</p> <p>I will explain the three types of neuron.</p> <p>I will explain an action potential and a reflex arc.</p> <p>I will explain the importance of a synapse.</p> <p>I will explain the importance of neurotransmitters and the affect of drugs on various neurotransmitters.</p> <p>I will label the basic parts of the brain and explain their function.</p> <p>I will explain the concept of left and right brain division.</p> <p>I will diagram the eye and explain how it receives light.</p> <p>I will explain near-sighted and far-sightedness.</p> <p>I will diagram the ear and explain how sound is received.</p> <p>I will associate the sense of memory with the sense of smell.</p>	<p>Homeostasis Hormones Neurons Cell body Dendrites Axon Sensory neuron Motor neuron Interneuron Action potential Reflex arc Synapse Reflex Withdrawal reflex Neurotransmitter Hypothalamus Cerebellum Cerebrum Thalamus Midbrain Pons Medulla Pituitary gland Pupil Lens Olfactory receptors Semicircular canals Photoreceptors Endolymph Choroids Cochlea Optic nerve Anvil Hammer Tympanic membrane Malleus Staples Incus Color blindness</p>	<p>Diagrams of neurons</p> <p>Right/left brain activity on internet</p> <p>Diagrams of the eyes</p> <p>Light and dark/ eye chart activity</p> <p>Inner ear diagrams</p> <p>Sense of smell activity</p> <p>Brain diagrams</p> <p>Hormone/nervous research</p> <p>Sound lab</p> <p>Color blindness test</p>		<p>Tests</p> <p>Quizzes</p> <p>Diagrams</p> <p>Lab analysis/design on sound</p> <p>Research writings</p>
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Week 12 If time		Cardiovascular system	<p>I will identify the various types of blood types.</p> <p>I will explain how the white and red blood cells form and function in the body.</p> <p>I will describe the primary functions of blood.</p> <p>I will explain how platelets and blood clotting helps the body.</p> <p>I will explain anemia and how it affects the function of the body.</p> <p>I will explain sickle cell anemia.</p> <p>I will discuss the hearts location and identify the heart chambers, sounds and valves.</p> <p>I will trace oxygenated and deoxygenated blood through the heart.</p> <p>I will explain how an electrocardiogram measures the heart conduction.</p> <p>I will explain the difference between arteries and veins.</p> <p>I will use and describe how a blood pressure cuff works.</p> <p>I will describe how food and diet can affect blood pressure.</p>	<p>Anemia</p> <p>Antibodies</p> <p>Red blood cell</p> <p>White blood cell</p> <p>Plasma</p> <p>A, AB, B, O</p> <p>Platelets</p> <p>Sickle cell anemia</p> <p>Heart</p> <p>Atrium</p> <p>Ventricle</p> <p>Vein</p> <p>Artery</p> <p>Electrocardiogram</p> <p>Blood pressure</p> <p>Systolic</p> <p>Diastolic</p> <p>Oxygenated</p>	<p>Blood typing activity</p> <p>Diagrams of oxygenated/deoxygenated blood through the body</p> <p>Arteries and veins comparisons activity</p> <p>Heart dissection</p> <p>Blood pressure lab</p> <p>Diet and blood pressure research</p>		<p>Blood typing report</p> <p>Blood pressure research and demonstration of lab</p> <p>Heart dissection analysis</p> <p>Tests</p> <p>Quizzes</p>

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Week 12 if time		Respiratory system	<p>I will list the major organs of the respiratory system and describe the function of each.</p> <p>I will compare, contrast, and explain the mechanism responsible for the exchange of gases that occurs during internal and external respiration.</p> <p>I will explain how the Heimlich maneuver is used and how it works.</p> <p>I will describe what SIDS is and the current research about prevention.</p>	<p>Lungs</p> <p>Trachea</p> <p>Alveolar sac</p> <p>Bronchioles</p> <p>Larynx</p> <p>Heimlich maneuver</p> <p>Oxygen</p> <p>Carbon dioxide</p> <p>SIDS</p> <p>Inspiration</p> <p>Expiration</p> <p>Diaphragm</p> <p>Respiratory arrest</p> <p>Apnea</p>	<p>Create a lung with a pop bottle lab</p> <p>Respiratory rate and relaxation lab.</p> <p>Heimlich video clip</p> <p>SIDS research</p>		<p>Bottle lab analysis</p> <p>Lab creation of respiration</p> <p>Research analysis</p>
		Digestive System	<p>I will label the sequence of parts from mouth to anus.</p> <p>I will describe the basic of protein, fat, and carbohydrate digestion and give the end product of each.</p> <p>I will describe the gallbladders function, location and its removal affects on the body.</p> <p>I will describe the pancreas and liver function and their location.</p> <p>I will explain what an ulcer is and how it is formed and healed.</p> <p>I will explain the crucial role of the salivary glands.</p> <p>I will explain how the liners of the primary digestive organs are organized.</p>	<p>Digestion</p> <p>Absorption</p> <p>Metabolism</p> <p>Gall bladder</p> <p>Salivary glands</p> <p>Ulcer</p> <p>Protein</p> <p>Fat</p> <p>Carbohydrate</p> <p>Mucosa</p> <p>Small intestine</p> <p>Large intestine</p> <p>Stomach</p> <p>Pancreas</p> <p>Liver</p>	<p>Digestive system digestion.</p> <p>Analysis of organ layers under the microscope</p> <p>Gallbladder survey</p> <p>Digestive enzyme lab</p> <p>Chart on digestion and excretion/food diary</p>		<p>Digestion lab</p> <p>Microscopic interpretations of organs.</p> <p>Chart/posters on digestion</p> <p>Food diary/excretion</p>