Mt. Zion High School Curriculum Map

Name: <u>Barksdale-Woodard</u> <u>Department: Science</u> <u>Subject: Anatomy & Physiology</u>

Quarter	Essential Skills	Strategies and Activities	CC Standards	Assessments
1	 A. Chapter 1 - "Introduction to Anatomy and Physiology" (1 week) 1. Define the sciences of anatomy and physiology 2. List and describe biological levels of organization 3. Properly use the terms that describe relative body positions, & regions 	Presentation & Discussion	HS-LS1-2, 3	Ch 1 Quizzes, Homework & Test
	 4. Name and describe the general organs, locations and functions of the organ systems of the human body B. Chapter 2 - "Basic Chemistry" (2 weeks) 1. Describe the relationships between atoms and molecules 2. Describe the three types of chemical reactions 3. List the major inorganic compounds common in cells 4. Describe the functions of the various organic compounds in cells 	Presentation & Discussion Nutrient Lab	HS-PS1-1, 2, 4, 5, & 7 HS-LS1-6	Ch 2 Lab, Quizzes, Homework & Test
	 C. Chapter 3 - "Cells" (2 weeks) 1. Describe the characteristics of a composite cell 2. Explain how substances move through cell membranes 3. Explain how a cell divides, including the cell cycle & mitosis and meiosis 	 Osmosis in Action Lab Microscope Lab – stages of mitosis Presentation & Discussion 	HS-LS1-1,2, 4 HS-LS3-1, 2	Ch 3 Lab, Quizzes, Homework & Test
	 D. Chapter 4 - "Cellular Metabolism" (2 weeks) 1. Compare and Contrast anabolic & catabolic reactions 2. Describe how enzymes control metabolic reactions 3. Explain how cellular respiration works 4. Describe how DNA stores the genetic code for the production of proteins 	 DNA Sequencing Lab Presentation & Discussion 	HS-PS1-4,7 HS-LS1-1,3, 4,6,7 HS-LS3-1	Ch 4 Lab, Quizzes, Homework & Test
	E. Chapter 5 - "Tissues" (2 weeks)1. Describe the Types/Functions/Locations of the four main types of tissues: Epithelial, Connective, Muscle & Nervous	 Microscope Lab - Distinguishing tissue types Presentation & Discussion 	HS-LS1-2,3	Ch 5 Lab, Quizzes, Homework & Test

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2	A. Chapter 6 - "Skin and the Integumentary System" (2 weeks)	1. Skin Receptors Lab	HS-LS1-3	Ch 6 Lab, Quizzes,
	Describe the four major types of membranes	2. Presentation & Discussion		Homework & Test
	2. Describe the structure of the skin and its functions			
	3. Describe the accessory organs of skin			
	4. Explain how the skin aids in regulation of body temperature			
	B. Chapter 7 - "Skeletal System" (2 weeks)	1 Presentation & Discussion	HS-LS1-2, 3	Ch 7 Quizzes,
	Describe the general structure of a bone	1 Tresentation & Discussion	113 L31 2, 3	Homework & Test
	2. Distinguish between intramembranous & endochondral ossification			Tromework a rest
	3. Discuss the major functions of bones			
	4. Distinguish between axial & appendicular skeletons			
	5. Locate and identify the bones			
	6. List and describe the 3 classes of joints and give examples of each			
	C. Chapter 8 - "Joints" (1 week)	1. Presentation & Discussion	HS-LS1-2	Ch 8 Quizzes,
	1. Describe the general structure of a synovial joint			Homework & Test
	2. Distinguish between the different types of joints based on structure			
	and joint movement			
	D. Chapter 9 - "Muscular System" (2 weeks)	Presentation & Discussion	UC 1C1 2 2	Ch O Quizzos
	1. Describe the structure of a skeletal muscle fiber	1. Presentation & Discussion	HS-LS1-2, 3	Ch 9 Quizzes, Homework & Test
	2. Explain how a muscle fiber contraction occurs			Homework & rest
	3. Distinguish between a twitch and a sustained contraction			
	4. Distinguish between the structures and functions of smooth muscle			
	5. Compare the contraction mechanism of skeletal & cardiac muscle			
	fibers			
	6. Describe the locations and actions of the major skeletal muscles			
	E. Chapter 10-12 - "Nervous System I, II & III"	Presentation & Discussion	HS-LS1-2, 3	Ch 10-12 Labs,
	Explain the general functions of the nervous system	2. Nervous System Lab		Quizzes,
	2. Describe the general structure of a neuron	3. Special Senses Lab		Homework & Test
	3. Explain how information passes from one neuron to another			
	4. Compare and contrast the major functions and parts of the nervous			
	system, including the central, peripheral, & autonomic nervous systems			
	5. Name five kinds of skin receptors and explain their functions			
	6. Describe the somatic senses: smell, taste, hearing, sight, and touch			

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3	A. Cat Dissection (6 1/2 -8 weeks)	1. Cat dissection lab	HS-LS1-2	Cat Dissection
	Study the external anatomy of the cat	2. Presentation & Discussion		Practical & Written
	Locate the major muscles			Quizzes & Tests
	Locate the major organs of the digestive, respiratory, reproductive and urinary systems and describe their functions			
	B. Chapter 13 - "Endocrine System" (1 week)	Presentation & Discussion	HS-LS1-2, 3	Ch 13 Quizzes,
	Distinguish between endocrine glands and exocrine glands		,	Homework & Test
	2. Name and describe the location of the major endocrine glands, and list the hormones that they secrete			
	C. Chapter 14 "Blood" (1.5 weeks)			
	Describe the general characteristics of blood and discuss its major functions	 Simulated Blood Typing Lab Presentation & Discussion 	HS-LS1-2,3	Ch 14 Lab, Quizzes, Homework & Test
	 Distinguish among the types of blood cells and their functions Define hemostasis and explain the mechanisms that help achieve it Explain blood typing and how it is used to avoid adverse reactions following transfusions 			

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4	 A. Chapter 15 "Cardiovascular System" (1.5 weeks) 1. Describe the structure and function of the heart 2. Discuss the cardiac cycle, including an ECG pattern, and explain how it is controlled 3. Compare and contrast the three major types of blood vessels 4. Describe the flow of blood through the heart and the body 	Blood Pressure & Pulse Lab Presentation & Discussion	HS-LS1-2, 3	Ch 15 Lab, Quizzes, Homework & Test
	B. Chapter 16 - "Lymphatic System & Immunity" (1 week) 1. Describe the structure and function of the lymphatic organs 2. Compare and contrast nonspecific and specific immune defenses	Presentation & Discussion	HS-LS1-2, 3	Ch 16 Lab, Quizzes, Homework & Test
	 C. Chapter 17 & 18 - "Digestive System" (2 weeks) 1. Describe the general functions of the digestive system 2. Name and describe the locations and major parts of the digestive organs 3. List the major nutrients, including carbohydrates, lipids, proteins, and vitamins and minerals and describe how cells use these nutrients 	 Digestive Enzymes Lab Presentation & Discussion 	HS-LS1-2, 3, 6, 7	Ch 17 & 18 Lab, Quizzes, Homework & Test
	 D. Chapter 19 - "Respiratory System" (1.5 weeks) 1. List the general functions of the respiratory system and the organs 2. Explain the mechanisms of inspiration and expiration 	 Spirometer Lab Presentation & Discussion 	HS-LS1-2, 3	Ch 19 Lab, Quizzes, Homework & Test
	 E. Chapter 20 - "Urinary System" (1.5 weeks) 1. Name and list the functions of the organs of the urinary system 2. Describe a nephron, and explain the functions of its major parts 3. Explain the process of urine formation 	 Simulated Urinalysis Lab Presentation & Discussion 	HS-LS1-2, 3	Ch 20 Lab, Quizzes, Homework & Test