Course Title:	Anatomy & Physiology A	
Unit 1 Big Idea:	**The Human Body**	
Essential Questions:	How is the human body organized? What are the basics of anatomical language? How does the human body maintain homeostasis?	
Standards		
HSCE	**L2.p1E** – Compare and contrast how different organisms accomplish similar functions (e.g., obtain oxygen for respiration, and excrete waste). **B2.3B** – Describe how the maintenance of a relatively stable internal environment is required for the continuations of life. **B2.3d** – Identify the general functions of the major systems of the human body. **B2.3e** – Describe how human body systems maintain relatively constant internal conditions (temperature, acidity, and blood sugar). **B2.6a** – Explain that the regulatory and behavioral responses of an organism to external stimuli occur in order to maintain both short- and long-term equilibrium.	
Chapter 1	**Assignment**	**Description**
	General unit readings and assignments	Students read from the online textbook, explore online resources, engage in videos/simulations
	1.1-1.2	Quiz
	1.3	Media activity: Create a living creature
	1.3	Discussion Board activity: Discuss your peer's creations
	1.4	Modeling activity: Create and label homeostatic feedback loops
	1.5	Lab activity: Perform a pickle autopsy
	Unit 1	Unit Review and Test

Unit 2 Big Idea:	Chemistry of the Human Body
Essential Questions:	How does the human body take in and convert energy? How does water help our body maintain homeostasis? What organic/inorganic compounds are required to sustain life?
Standards	
HSCE	**L2.p1B** – Explain the importance of both water and the element carbon to cells. **L2.p2A** – Describe how organisms sustain life by obtaining, transporting, transforming, releasing, and eliminating matter and energy. **L2.p4B** – Explain how an organism obtains energy from the food it consumes. **L2.p5B** – Identify the most common complex molecules that make up living organisms. **B2.2A** – Explain how carbon can join to other carbon atoms in chains and rings to form large and complex molecules. **B2.2C** – Describe the composition of the four major categories of organic molecules (carbohydrates, lipids, proteins, nucleic acids) **B2.2D** – Explain the general structure and primary functions of the major complex organic molecules that compose living organisms. **C4.8A** – Identify the location, relative mass, and charge for electrons, protons, and neutrons. **C4.10A** – List the number of protons, neutrons, and electrons for any given ion or isotope.

	C4.10B – Recognize that an element always contains the same number of protons.	
Chapter 2	**Assignment**	**Description**
	General unit readings and assignments	Students read from the online textbook, explore online resources, engage in videos/simulations
	2.1	Writing activity: Examples of energy conversion
	2.1-2.3	Quiz
	2.2	Inquiry activity: Modeling atoms gizmo
	2.4	Writing activity: Importance of water essay
	2.4-2.5	Quiz
	Unit 2	Unit Review and Test

Unit 3 Big Idea:	**Cells and Tissues**	
Essential Questions:	What are common organelles within a cell and what are their specific functions? What membranes/tissues are common within our body and how do they function? How do cells grow and divide? What happens when this process is faulty?	
Standards		
HSCE	**L2.p1C/B2.1C** – Describe growth and development in terms of increase in cell number, cell size, and/or cell products. **L2.p1D** – Explain how the systems of a multicellular organism work together to support the organism. **B2.3A** – Describe how cells function in a narrow range of physical conditions, such as temperature and pH, to perform life functions. **B2.5B** – Explain how major systems and processes work together in animals and in plants, including relationships between organelles, cells, tissues, organs, organ systems, and organisms. Relate these to molecular functions. **B2.5h** – Explain the role of cell membranes as a highly selective barrier (diffusion, osmosis, and active transport). **B2.5i** – Relate cell parts/organelles to their function. **B2.r6b** – Explain that complex interactions among the different kinds of molecules in the cell cause distinct cycles of activities, such as growth and division. **B4.4b** – Explain that gene mutation in a cell can result in uncontrolled cell division called cancer.	
Chapter 3	**Assignment**	**Description**
	General unit readings and assignments	Students read from the online textbook, explore online resources, engage in videos/simulations
	3.2	Practice activity: Cell video game
	3.1-3.3	Quiz
	3.3	Media activity: Movement across the cell membrane
	3.4	Inquiry activity: Cell division gizmo
	3.4-3.6	Quiz
	Unit 3	Unit Review and Test

Unit 4 Big Idea:	**Body Membranes**
Essential Questions:	What are the four most common types of membranes within our body and what function do they serve? What is the function of the integumentary system and what anatomical/physiological aspects help it to carry out these functions?

	What anatomical and physiological factors help determine skin color?	
Standards		
HSCE	**B2.3d** – Identify the general functions of the major systems of the human body. **HE5.8** – Describe personal strategies for minimizing potential harm from exposure to the sun.	
Chapter 4	**Assignment**	**Description**
	General unit readings and assignments	Students read from the online textbook, explore online resources, engage in videos/simulations
	4.1	Practice activity: Types of membranes
	4.1-4.2	Quiz
	Unit 4	Unit Review and Test

Unit 5 Big Idea:	**The Skeletal System**	
Essential Questions:	How is the skeletal system organized and classified? What are common types of joints in the body and what movement do they allow?	
Standards		
HSCE	**B1.1E** – Describe a reason for a given conclusion using evidence from an investigation. **B2.3d** – Identify the general functions of the major systems of the human body.	
Chapter 5	**Assignment**	**Description**
	General unit readings and assignments	Students read from the online textbook, explore online resources, engage in videos/simulations
	5.1	Quiz
	5.2	Lab activity: Balloon skull lab
	5.2-5.3	Quiz
	5.4	Quiz
	5.5	Research/Writing activity: “Soda and Osteoporosis”
	Unit 5	Unit Review and Test

Unit 6 Big Idea:	**The Muscular System**	
Essential Questions:	What is the structure and function of the three muscle types in our body? What is the anatomy and physiology behind muscle movement? What anatomical language do we use to describe our movements?	
Standards		
HSCE	**B2.3d** – Identify the general functions of the major systems of the human body**.** **HE1.9** – Predict the health benefits of eating healthy and being physically active; and the potential consequences of not doing so.	
Chapter 6	**Assignment**	**Description**
	General unit readings and assignments	Students read from the online textbook, explore online resources, engage in videos/simulations
	6.1	Practice activity: Muscle tissue types chart
	6.1-6.2	Quiz
	6.3	Quiz
	6.4	Media activity: Muscle movements in our daily lives
	6.4-6.5	Quiz

	6.6	Media/Writing activity: Positive effects of exercise
	Unit 6	Unit Review and Test

Unit 7 Big Idea:	**The Nervous System**	
Essential Questions:	What are the structural and functional classifications of the nervous system, including the peripheral and central nervous systems? What are the anatomical and physiological events that lead to a nerve impulse?	
Standards		
HSCE	**B2.3d** – Identify the general functions of the major systems of the human body**.**	
Chapter 7	**Assignment**	**Description**
	General unit readings and assignments	Students read from the online textbook, explore online resources, engage in videos/simulations
	7.1	Practice activity: Overall function of the nervous system
	7.1-7.2	Quiz
	7.3	Discussion activity: Helmet law discussion
	7.3	Quiz
	7.4	Quiz
	7.5	Writing activity: Nervous system disorder
	7.5	Discussion activity: Nervous system disorder discussion
	Unit 7	Unit Review and Test

Unit 8 Big Idea:	**Special Senses**	
Essential Questions:	What is the structure of the eye, ear and tongue? What is each part's function? What is the physiology behind sight, smell, taste, and hearing? What are common disorders of the special senses?	
Standards		
HSCE	**B1.2D** – Evaluate scientific explanations in a peer review process or discussion format. **B1.2k** – Analyze how science and society interact from a historical, political, economic, or social perspective. **B2.3d** – Identify the general functions of the major systems of the human body.	
Chapter 8	**Assignment**	**Description**
	General unit readings and assignments	Students read from the online textbook, explore online resources, engage in videos/simulations
	8.1	Lab activity: Virtual eye dissection
	8.1-8.2	Quiz
	8.3	Discussion activity: Can you grow and ear?
	8.5	Media activity: Hearing flow chart
	8.3-8.5	Quiz
	8.6	Writing activity: Hearing and equilibrium disorder essay
	8.6	Discussion activity: Hearing and equilibrium disorder
	8.7	Media/Writing activity: Why you love your favorite food
	8.7	Quiz
	Unit 8	Unit Review and Test