

Winston County Schools Curriculum Guide

Human Anatomy & Physiology

Time Frame	1st 9 Weeks
Units:	Unit Standards
1: Tissues	0. WCBOE Introduction to Anatomy.
2: Integumentary System	1. Obtain, evaluate, and communicate information to explain how differences in cellular structure (mitochondria, cytoskeletal structure, endoplasmic reticulum, cell membrane) lead to differences in the function and organization of the four tissue types (epithelial, connective, muscular, and nervous).
3: Skeletal System	2. Obtain, evaluate, and communicate information to describe how the structures of the integumentary system and its accessory organs contribute to its function. 2a. Construct an explanation of the relationships between the integumentary system and other organ systems, including the body's mechanisms for maintaining homeostasis. 3. Develop and use a model to illustrate how the structures of the skeletal system contribute to its function. 3a. Obtain, evaluate, and communicate information describing the growth and development of the skeletal system. 3b. Construct an explanation of the relationships between the skeletal system and other organ systems, including the body's mechanisms for maintaining homeostasis.

Resources	<i>Essentials of Anatomy & Physiology</i> , Scanlon & Sanders, 7th Edition. It's Not Rocket Science. Alabama Science in Motion.

Winston County Schools Curriculum Guide

Human Anatomy & Physiology

Time Frame	2nd 9 Weeks
Units:	Unit Standards
4: Muscular System	4. Develop and build a three-dimensional model to illustrate the structures of the muscular system, including muscle locations, origins, and insertions, and explain their roles in movement and support.
5: Nervous System	4a. Model the cellular physiology of skeletal muscle, including how the cell functions in muscle contraction and relaxation.
6: Endocrine System	4b. Obtain, evaluate, and communicate information to explain muscle fatigue and tone in terms of muscle cell physiology.
	5. Obtain, evaluate, and communicate information explaining the relationship between the structures and functions of the central nervous system and the peripheral nervous system.
	5a. Use a model to illustrate the role of action potentials in neural transmission.
	5b. Construct an explanation of the role of reflex arcs, the central nervous system, and special senses in the response to stimuli to maintain homeostasis and guide behavior.
	5c. Construct an explanation of the role of neurotransmitters in the functions and behavior of the nervous system.
	5d. Obtain, evaluate, and summarize scientific findings regarding the biological origin of emotions and memories in distinct regions of the brain.
	6. Construct an explanation of how the interdependence of the nervous and endocrine systems maintains homeostasis.

	6a. Obtain, evaluate, and communicate information explaining how hormones secreted by endocrine glands help the body maintain homeostasis through negative and positive feedback loops. 6b. Obtain, evaluate, and communicate information describing the role of endocrine axes involving the thyroid and gonads in controlling growth, development, metabolism, and reproduction.
Resources	<i>Essentials of Anatomy & Physiology</i>, Scanlon & Sanders, 7th Edition. It's Not Rocket Science. Alabama Science in Motion.

Winston County Schools Curriculum Guide <i>Human Anatomy & Physiology</i>	
Time Frame	3rd 9 Weeks
Units:	Unit Standards
7: Immune System	

8: Cardiovascular System 9: Respiratory System	7. Obtain, evaluate, and communicate information describing the structure of lymph nodes and primary cells of the immune system (neutrophils, lymphocytes, monocytes, macrophages, eosinophils, and basophils) and explaining their role in inflammation and the body's defense. 7a. Obtain, evaluate, and communicate information explaining how vaccines work to stimulate immunity in the human body. 7b. Construct an explanation of how the lymphatic system interacts with the immune and circulatory systems. 8. Obtain, evaluate, and communicate information explaining how the structures of the cardiovascular system are related to its functions. 8a. Create a model to show how a pressure gradient moves blood through the circulatory system. 8b. Carry out an investigation exploring the link between blood pressure and heart rate and include the role of baroreceptors and chemoreceptors in the explanation of results. 8c. Construct an explanation of the cardiovascular system's relationships with other organ systems, including the body's mechanisms for maintaining homeostasis. 9. Obtain, evaluate, and communicate information to explain the relationship between the structures and functions of the respiratory system. 9a. Construct an explanation of how the circulatory system works with respiration to transport respiratory gases.
--	--

	9b. Use a model to illustrate how pressure gradients move air into and out of the lungs. 9c. Construct an explanation of the respiratory system's relationships with other organ systems, including the body's mechanisms for maintaining homeostasis.	
Resources	<i>Essentials of Anatomy & Physiology</i>, Scanlon & Sanders, 7th Edition. It's Not Rocket Science. Alabama Science in Motion.	

Winston County Schools Curriculum Guide

Human Anatomy & Physiology

Time Frame	4th 9 Weeks
Units:	Unit Standards
7: Digestive System	10. Obtain, evaluate, and communicate information explaining the relationship between the structures and functions of the digestive system, including absorption and chemical and
8: Excretory System	

9: Reproductive System	mechanical digestion. 10a. Construct an explanation of the roles of accessory organs (salivary glands, pancreas, and liver) in digestion. 10b. Construct an explanation of the relationships between the digestive system and other organ systems, including the body's mechanisms for maintaining homeostasis. 11. Use a model to illustrate the microanatomy of excretory structures and describe their functions. 11a. Construct an explanation of how the excretory system maintains homeostasis, including blood pressure and pH. 12. Use models to compare and contrast the internal and external structures of the female and male reproductive systems and their production of gametes. 12a. Construct an explanation of how the endocrine system influences the growth, development, and functions of the reproductive systems in males and females, including the mechanisms of hormonal birth control.
Resources	<i>Essentials of Anatomy & Physiology</i>, Scanlon & Sanders, 7th Edition. It's Not Rocket Science. Alabama Science in Motion.