

Wright City Science Curriculum

7th Grade

Grade	7
Unit of Study	Body Systems
Length of Unit	9 Weeks
Sample Essential Questions	Sample Corresponding Big Ideas
Create an analogy between a house and the human body systems.	Create an analogy of the human body systems with another tangible system.
Fill in a table to show how the body systems interact in different situations.	Present evidence that body systems interact to carry out key body functions, including providing nutrients and oxygen to cells, removing carbon dioxide and waste from cells and the body, controlling body motion/activity and coordination, and protecting the body.
Create rides at an amusement park to represent the human body systems.	Recognize or recall specific vocabulary such as: circulatory system, carbon dioxide, digestive system, muscular system, nervous system, nutrients, oxygen, response, respiratory system, stimulus
Use evidence to explain how the respiratory and circulatory systems work together to support an athlete.	Recognize that every body function is composed of smaller systems.
Imagine that you have just been running or exercising strenuously. Please give examples of what happens to your body. How do you feel? Heart? Lungs? Chest?	Recognize that all systems interact with other systems
What is the evidence to support your claims?	Recognize the reasons the organs work together to carry out complex functions.

Missouri Learning Standards

Priority Standards

6-8.LS1.A.4 Present evidence that body systems interact to carry out key body functions, including providing nutrients and oxygen to cells, removing carbon dioxide and waste from cells and the body, controlling body motion/activity and coordination, and protecting the body.

Unit 1 Sequence			
MLS	Topic(s)	Learning Targets	Academic Vocabulary
6-8.LS1.A.4	Intro	I can identify the major human body systems and their primary functions. I can explain why the human body needs multiple systems to survive. I can create an analogy comparing the human body to another complex system.	body system, organ, tissue, cell, function, structure, interaction, organism, system, analogy, model, evidence
6-8.LS1.A.4	Digestive System	I can describe how the digestive system breaks food down into nutrients. I can explain how nutrients become available to cells. I can identify evidence that the digestive system depends on other body systems.	digestive system, digestion, nutrient, nutrient absorption, mechanical digestion, chemical digestion, enzyme, stomach, small intestine, large intestine, esophagus, waste
6-8.LS1.A.4	Respiratory System	I can describe how the respiratory system brings oxygen into the body and removes carbon dioxide. I can explain why cells need oxygen. I can use evidence to explain how the respiratory system interacts with another body system.	respiratory system, respiration, oxygen, carbon dioxide, inhale, exhale, gas exchange, lungs, trachea, diaphragm, alveoli, diffusion
6-8.LS1.A.4	Circulatory System	I can describe how the circulatory system transports oxygen, nutrients, and waste throughout the body. I can explain how the heart, blood, and blood vessels work together. I can use evidence to explain how the circulatory system interacts with the digestive and respiratory systems.	circulatory system, cardiovascular system, heart, blood, blood vessel, artery, vein, capillary, circulation, transport, oxygenated, deoxygenated
6-8.LS1.A.4	Respiratory and Circulatory System Interaction	I can explain how the respiratory and circulatory systems work together to deliver oxygen to cells and remove carbon dioxide. I can use evidence to explain what happens to these systems during exercise. I can construct an evidence-based explanation of how multiple systems support an athlete.	system interaction, oxygen transport, gas exchange, carbon dioxide removal, diffusion, cellular respiration, oxygen demand, heart rate, breathing rate, evidence, claim, reasoning
6-8.LS1.A.4	Muscular and Skeletal Systems	I can explain how the muscular and skeletal systems work together to create movement. I can identify how muscles, bones, and joints	muscular system, skeletal system, muscle, bone, joint, tendon, ligament,

		contribute to body movement. I can explain how other body systems support movement and physical activity.	movement, contraction, relaxation, support, protection, coordination
6-8.LS1.A.4	Nervous System and Coordination	I can explain how the nervous system detects stimuli and coordinates responses. I can describe how the nervous system communicates with other body systems. I can use evidence to explain how the nervous, muscular, and skeletal systems work together to produce a response.	nervous system, stimulus, response, neuron, brain, spinal cord, nerve, sensory receptor, signal, coordination, reaction, voluntary, involuntary
6-8.LS1.A.4	Body Systems Working Together	I can explain how multiple body systems interact to perform complex functions. I can trace the movement of oxygen, nutrients, and waste through multiple body systems. I can use evidence to explain how body systems respond to changes such as exercise, illness, or injury.	interdependent, interaction, body function, homeostasis, transport, regulation, coordination, waste removal, nutrient delivery, oxygen delivery, evidence, system model
6-8.LS1.A.4	Systems Integration and Assessment	I can use evidence to explain how body systems interact to maintain body functions. I can identify relationships among multiple body systems. I can develop and defend an analogy or model that demonstrates how the body's systems work together.	system interaction, evidence, claim, reasoning, model, analogy, function, interdependence, cause and effect, response, coordination, homeostasis

MLS	Learning Activities	
6-8.LS1.A.4	Students compare the human body to a house, assigning body systems to parts of a house based on function.	Must Do ▾
6-8.LS1.A.4	Students use a hands-on simulation to model the movement and breakdown of food through the digestive tract.	Must Do ▾
6-8.LS1.A.4	Students build or examine a model demonstrating how the diaphragm and lungs work.	Must Do ▾
6-8.LS1.A.4	Students construct or investigate a model showing how the heart pumps blood.	Can Do ▾
6-8.LS1.A.4	Students collect heart-rate and breathing-rate data before and after exercise and analyze the relationship.	Can Do ▾
6-8.LS1.A.4	Students identify which muscles and bones are involved in common movements.	Must Do ▾
6-8.LS1.A.4	Students conduct a ruler-drop or similar reaction-time experiment and analyze the data.	Must Do ▾
6-8.LS1.A.4	Students investigate scenarios such as running, eating, getting injured, or being sick and identify all systems involved.	Must Do ▾
6-8.LS1.A.4	Students design amusement-park rides representing body systems and their interactions.	Can Do ▾

Assessments		
MLS	Description or Location	Rubric/Location

6-8.LS1.A.4	Digestive System	CFA/Summative
6-8.LS1.A.4	Respiratory System	CFA/Summative
6-8.LS1.A.4	Circulatory System	CFA/Summative
6-8.LS1.A.4	Muscular and Skeletal Systems	CFA/Summative
6-8.LS1.A.4	Nervous System and Coordination	CFA/Summative

Additional Resources	
Video: Organ Systems: http://tinyurl.com/4wxhzn53	
Resource: Body Systems: http://tinyurl.com/42jrvmh6	
Body System Amusement Parks: http://tinyurl.com/26d6w94j	
Resource: Digestive Circulatory System: http://tinyurl.com/4msf3fw9	
Resource: Nervous System Notes: http://tinyurl.com/3nv79h3h	