

Conceptual Curriculum Map (CCM)

Content Area: HS Science
Grade Level: 11/12

Course: Anatomy and Physiology

Unit: 1 Introduction, Skeletal and Muscular System	Long-Term Outcomes: District Transfer Goals (Global Competencies): - CT.1: Students will be able to analyze and evaluate evidence, arguments, claims and beliefs to draw conclusions, make informed decisions, and solve problems. Disciplinary Transfer Goals: - ST.1: Students will be able to independently use their learning to actively seek and analyze new scientific information and perspectives to make sense of phenomena.		
	Standards	Conceptual Overview	Rationale
Focus & Timeframe <i>(Structure/Function; Interacting Systems, 4 wks)</i>	HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. HS-LS1-3. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. RST 11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11-12 texts and topics</i>. RST 11-12.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.	1. The way and manner in which muscles and bones are shaped and their substructures determine many of their properties and functions. 2. The body is designed in a way to have feedback mechanisms that are designed to maintain balance. 3. The 3 muscle types all work in essentially the same way, but have different tasks, therefore are designed slightly differently.	We chose this set of conceptual ideas because... Students need to understand that the skeletal and muscular system has evolved in a manner that allows humans to become highly specialized and efficient for movement to maintain life Students need to understand that when there is disease or injury to structures in the body, the body has a specific design which allow them to adapt and resolve the issue.

Unit 2: Nervous & Endocrine System. (4 Weeks)	Long-Term Outcomes/Transfer Goals: District Transfer Goals (Global Competencies): - CT.1: Students will be able to analyze and evaluate evidence, arguments, claims and beliefs to draw conclusions, make informed decisions, and solve problems. - CI: Students will be able to exhibit curiosity, imagination, flexibility, and perseverance in order to innovate and make valuable contributions to the community. Disciplinary Transfer Goals: - ST.2: Students will be able to independently use their learning to scientifically evaluate information to make informed decisions and/or design solutions.		
	Standards	Conceptual Overview	Rationale
Focus & Timeframe <i>(Structure/Function;</i>	HS-LS1-2. Develop and use a model to illustrate the hierarchical	<i>Students will understand that...</i>	We chose this set of conceptual ideas because...

<i>Interacting Systems, 4 wks)</i>	organization of interacting systems that provide specific functions within multicellular organisms. HS-LS1-3. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. RST 11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11-12 texts and topics</i>. RST 11-12.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.	1. cause and effect relationships exist within the nervous and endocrine system that explain and predict behaviors in the body. 2. feedback (negative or positive) can stabilize or destabilize a system within an individual.	Students need to understand that the nervous system is highly specialized to control our response to internal and external stimuli.
Unit 3: Circulatory & Lymphatic System	Long-Term Outcomes/Transfer Goals: <i>District Transfer Goals (Global Competencies):</i> • CT.1: Students will be able to analyze and evaluate evidence, arguments, claims and beliefs to draw conclusions, make informed decisions, and solve problems. • CO: Students will be able to respectfully engage with others in constructive and critical dialogue, and take the initiative needed to accomplish a shared goal. <i>Disciplinary Transfer Goals:</i> • ST.1: Students will be able to independently use their learning to actively seek and analyze new scientific information and perspectives to make sense of phenomena.		
Focus & Timeframe <i>(Structure/Function; Interacting Systems, 3 wks)</i>	HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. HS-LS1-3. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. RST 11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11-12 texts and topics</i>.	Conceptual Overview <i>Students will understand that...</i> 1. The structures found in our blood are highly specialized allowing for the functions of transportation of molecules such as oxygen, fighting infection and preventing blood loss. 2. The structure of the mammalian heart has evolved to allow for maximum amount of oxygen carried in blood.	Rationale We chose this set of conceptual ideas because... Students need to understand that our circulatory system is the most advanced and most highly specialized in the animal kingdom at efficiently transporting material fighting infection and preventing blood loss.

	RST 11-12.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.	3. The structure of the 3 vessel types are designed for the forces and tasks they must complete. 4. Cause and effect relationships exist within the lymphatic system that fight pathogens and maintain healthy cells.	
Unit 4: Digestive, Urinary & Respiratory System	Long-Term Outcomes/Transfer Goals: <i>District Transfer Goals (Global Competencies):</i> - CT.1: Students will be able to analyze and evaluate evidence, arguments, claims and beliefs to draw conclusions, make informed decisions, and solve problems. - CO: Students will be able to respectfully engage with others in constructive and critical dialogue, and take the initiative needed to accomplish a shared goal. <i>Disciplinary Transfer Goals:</i> - ST.3: Engage in public discourse on science-related issues, using scientific reasoning and empirical evidence.		
	Standards	Conceptual Overview	Rationale
Focus & Timeframe (Structure/Function; Interacting Systems, 3 wks)	HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. HS-LS1-3. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. RST 11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11-12 texts and topics</i>. RST 11-12.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.	<i>Students will understand that...</i> 1. When energy and matter enters the body system, the amount of each remains constant, however, changes form within the body. 2. Changes in proportions or quantity affect the performance of the respiratory, digestive and urinary system.	We chose this set of conceptual ideas because... Students need to understand that the body intakes materials in the form of food and oxygen which are then used to support life's functions. Waste products from these life processes need to be expelled to avoid death.
Unit 5: Reproductive System	Long-Term Outcomes/Transfer Goals: <i>District Transfer Goals (Global Competencies):</i> CO: Students will be able to respectfully engage with others in constructive and critical dialogue, and take the initiative needed to accomplish a shared goal. <i>Disciplinary Transfer Goals:</i>		

	ST.1: Students will be able to independently use their learning to actively seek and analyze new scientific information and perspectives to make sense of phenomena.		
	Standards	Conceptual Overview	Rationale
Focus & Timeframe <i>(Structure/Function; Interacting Systems, 2 wks)</i>	HS-LS1-2. Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms. HS-LS1-3. Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis. RST 11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11-12 texts and topics</i>. RST 11-12.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.		