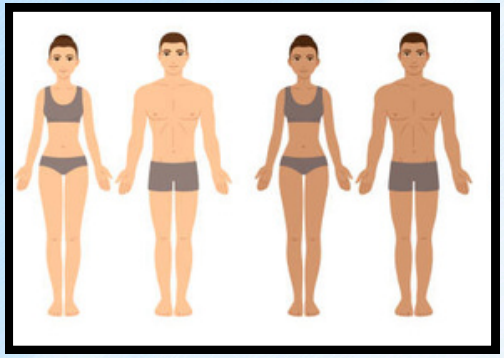
Course Title	IAA Anatomy & Physiology

INNOVATIVE ARTS ACADEMY

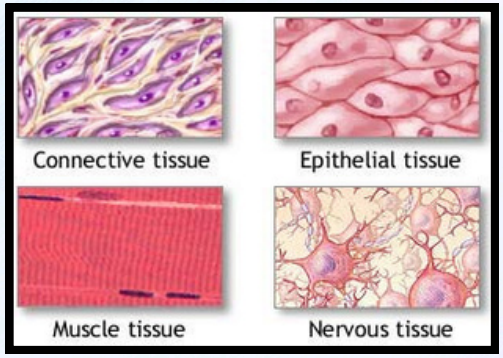
Course Overview	This course will provide students with a comprehensive understanding of the structure and function of the human body, exploring its hierarchical organization from cells and tissues to organ systems and their interactions. Students will analyze how these systems work together to maintain life and respond to stimuli, while also examining key concepts in biochemistry, genetics, and disease. The course will incorporate laboratory activities, modeling, data analysis, and research to foster scientific thinking and communication skills.

Unit Title	Introduction: Directional Terms	
Time Frame	2-3 Weeks	



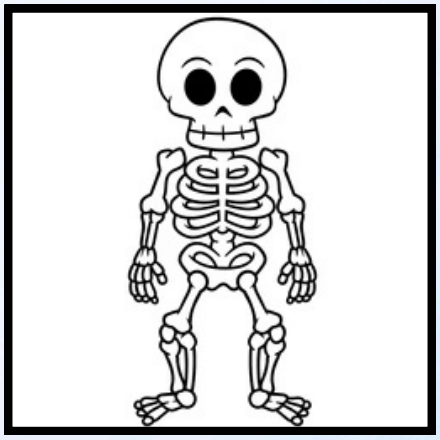
Focus of the Unit
This unit focuses on establishing foundational knowledge for the study of anatomy and physiology, including basic biology review, anatomical terminology, levels of organization in the human body, and the study of body tissues (histology).

Unit Title	Human Histology	
Time Frame	2-3 Weeks	



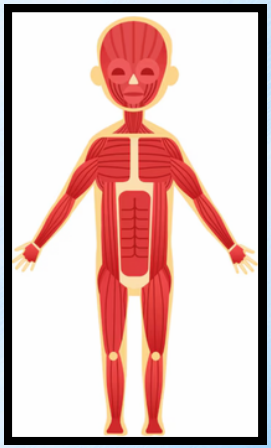
Focus of the Unit
Cell structure, cell transport, stem cell research, tissues, the integumentary system, and the endocrine system. This unit delves into the structure and function of cells and tissues (cytology and histology), including cell transport processes and how tissues work together.

Unit Title	Musculoskeletal System (Part I)	
Time Frame	2-3 Weeks	



Focus of the Unit
Divisions of the skeletal system, bones and their locations, bone growth, repair, and function, skeletal structure, joints, muscles and their location, muscular contraction, muscular disorders, and skeletal disorders12. This unit examines the skeletal and muscular systems, their components, functions, and relationship in providing support and movement

Unit Title	Musculoskeletal System (Part II)	
Time Frame	2-3 Weeks	



Focus of the Unit
Divisions of the skeletal system, bones and their locations, bone growth, repair, and function, skeletal structure, joints, muscles and their location, muscular contraction, muscular disorders, and skeletal disorders12. This unit examines the skeletal and muscular systems, their components, functions, and relationship in providing support and movement

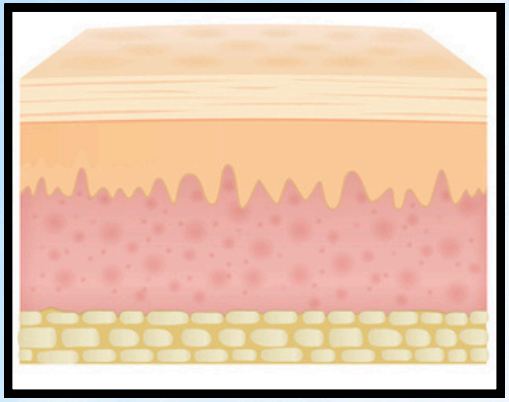
Board Approved 8/2025

Course Title	IAA Anatomy & Physiology

INNOVATIVE ARTS ACADEMY

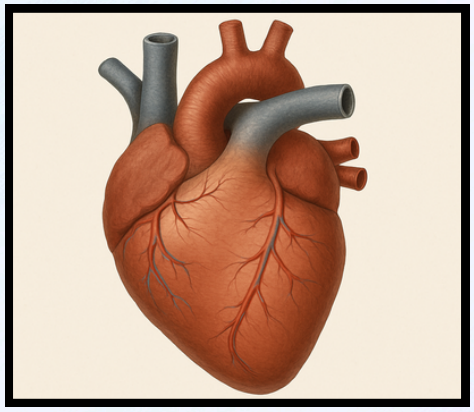
Course Overview	This course will provide students with a comprehensive understanding of the structure and function of the human body, exploring its hierarchical organization from cells and tissues to organ systems and their interactions. Students will analyze how these systems work together to maintain life and respond to stimuli, while also examining key concepts in biochemistry, genetics, and disease. The course will incorporate laboratory activities, modeling, data analysis, and research to foster scientific thinking and communication skills.

Unit Title	Integumentary System	
Time Frame	2-3 Weeks	



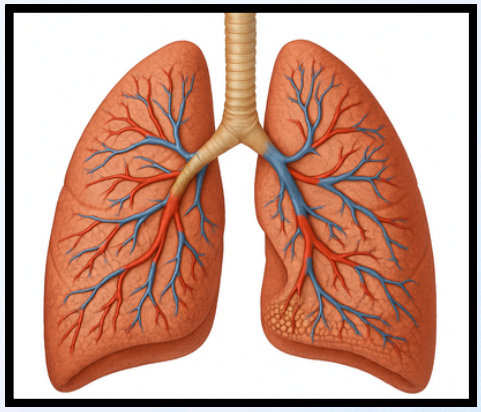
Focus of the Unit
This unit introduces the integumentary system, which is the body's protective outer covering. It focuses on identifying the structures and describing the functions of the skin. Students will explore how this system relates to overall body organization and defense.

Unit Title	Cardiovascular System	
Time Frame	2-3 Weeks	



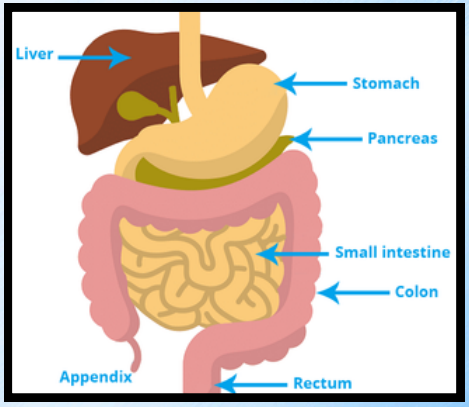
Focus of the Unit
In this unit, students will explore the structure and function of the human cardiovascular system. The focus will be on understanding how the heart, blood, and blood vessels work together to transport oxygen, nutrients, hormones, and waste throughout the body. Students will examine the anatomy of the heart, trace the flow of blood through systemic and pulmonary circuits, and analyze how the cardiovascular system maintains homeostasis.

Unit Title	Respiratory System	
Time Frame	2-3 Weeks	



Focus of the Unit
This unit examines the respiratory system, responsible for gas exchange. It focuses on the structure and function of the lungs and respiratory muscles. Students will explore how gases like oxygen and carbon dioxide are transported and the relationship between body action and the respiratory system.

Unit Title	Digestive System	
Time Frame	2-3 Weeks	



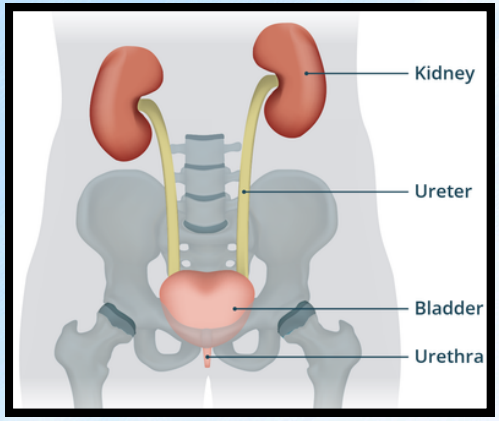
Focus of the Unit
This unit explores the digestive system, which is mentioned in the context of biochemistry and metabolism in the sources. It covers the structures and functions involved in processing food and nutrient absorption. Students will learn about components like the esophagus, intestines, pancreas, and liver, and how nutrition affects the system.

Course Title	IAA Anatomy & Physiology

INNOVATIVE ARTS ACADEMY

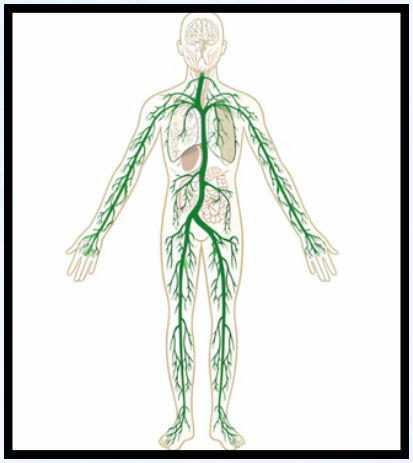
Course Overview	This course will provide students with a comprehensive understanding of the structure and function of the human body, exploring its hierarchical organization from cells and tissues to organ systems and their interactions. Students will analyze how these systems work together to maintain life and respond to stimuli, while also examining key concepts in biochemistry, genetics, and disease. The course will incorporate laboratory activities, modeling, data analysis, and research to foster scientific thinking and communication skills.

Unit Title	Urinary System/Excretory	
Time Frame	2-3 Weeks	



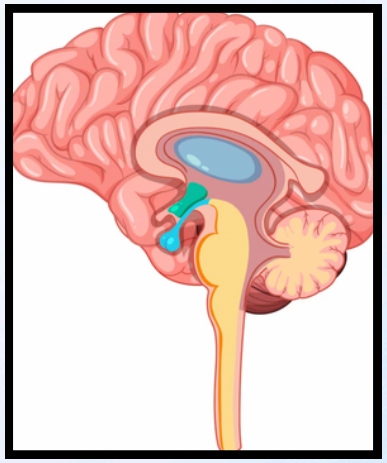
Focus of the Unit
Information specifically about the Urinary or Excretory System as a dedicated unit is not available in the provided source excerpts This system's function in waste removal and maintaining fluid balance is a crucial aspect of human anatomy, This unit will cover the kidneys, ureters, bladder, and urethra, focusing on their structure and role in filtering waste from the blood.

Unit Title	Lymphatic System	
Time Frame	2 Weeks	



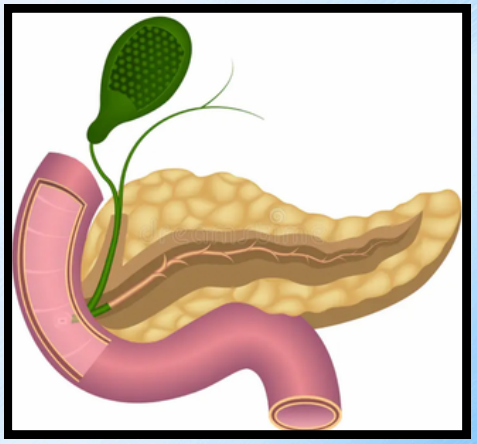
Focus of the Unit
This unit focuses on the lymphatic system, which plays a key role in the body's defense. It covers the structure and function of lymph nodes and lymph cells. Students will analyze the lymphatic system's relationship to other bodily systems and its importance for a healthy body.

Unit Title	Nervous System	
Time Frame	2-3 Weeks	



Focus of the Unit
This unit examines the nervous system, responsible for information processing and communication within the body. It covers the divisions and functions of the nervous system, including neurons, nerve impulses, and reflexes. Students will also explore the structures and functions of the brain and sensory processing.

Unit Title	Endocrine System	
Time Frame	2-3 Weeks	



Focus of the Unit
This unit introduces the endocrine system, which is responsible for producing and regulating hormones throughout the body. It focuses on identifying the structures and describing the functions of the endocrine system11. Students will explore how this system integrates with other body systems to maintain homeostasis.

Unit Title	Introduction: Directional Terms
Time Frame	2-3 Weeks

INNOVATIVE ARTS ACADEMY

Essential Question(s)

How do human body systems work together?

How do structures influence system functions?

Focus of the Unit

This unit focuses on establishing foundational knowledge for the study of anatomy and physiology, including basic biology review, anatomical terminology, levels of organization in the human body, and the study of body tissues (histology).

Standards

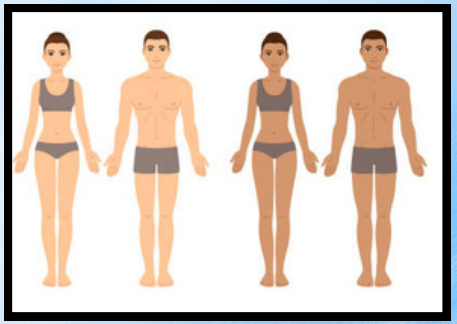
3.1.9-12.B Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms.
3.1.6-8.C Use arguments supported by evidence for how the body is a system of interacting subsystems composed of groups of cells. (This standard focuses on the interconnectedness of systems, a key concept for the entire course).
3.5.9-12.DD Develop a plan that incorporates knowledge from science, mathematics, and other disciplines to design or improve a technological product or system. (Modeling systems requires planning and application of knowledge).

Learning Targets

I can identify and use anatomical directional terms to describe the location of body structures.

Learning Targets

I can identify the major human body systems.



Learning Targets

I can describe the basic function of each human body system.

Learning Targets

I can label the major human body systems on a model.

Resources	McGraw Hill: Anatomy and Physiology Textbook

Unit Title	**Human Histology**
Time Frame	2-3 Weeks

INNOVATIVE ARTS ACADEMY

Essential Question(s)

What are the functions of cell structures and how do they work together?

How does the body react to the need for tissue repair?

Focus of the Unit

Cell structure, cell transport, stem cell research, tissues, the integumentary system, and the endocrine system. This unit delves into the structure and function of cells and tissues (cytology and histology), including cell transport processes and how tissues work together.

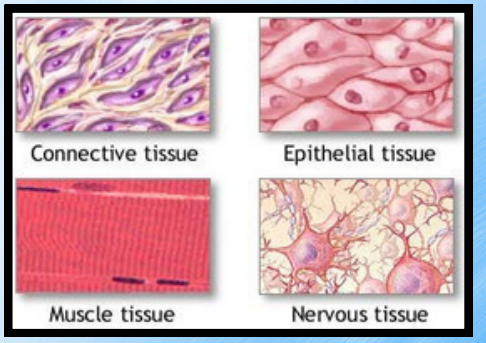
Standards	3.1.9-12.A Construct an explanation based on evidence for how the structure of DNA determines the structure of proteins which carry out the essential functions of life through systems of specialized cells 3.1.9-12.B Develop and use a model to illustrate the hierarchical organization of interacting systems that provide specific functions within multicellular organisms4. (Tissues are a level of organization above cells). 3.1.6-8.A Conduct an investigation to provide evidence that living things are made of cells, either one cell or many different numbers and types of cells3. (Focus shifts to specialized cells forming tissues at this level).

Learning Targets

I can identify and describe the major types of human tissues and their functions.

Learning Targets

I can identify the main structures of a cell and describe their functions.



Learning Targets

I can explain how different cell transport processes work.

Learning Targets

I can compare and contrast the structures of different tissue types in the body.

Resources	**McGraw Hill: Anatomy and Physiology Textbook**

Unit Title	Musculoskeletal System (Part I)
Time Frame	2-3 Weeks

INNOVATIVE ARTS ACADEMY

Essential Question(s)

What are the structures and functions of the muscular system in the body?

What is the anatomical structure of a muscle?

What roles does a muscle play in action?

Focus of the Unit

Divisions of the skeletal system, bones and their locations, bone growth, repair, and function, skeletal structure, joints, muscles and their location, muscular contraction, muscular disorders, and skeletal disorders. This unit examines the skeletal and muscular systems, their components, functions, and relationship in providing support and movement

Standards

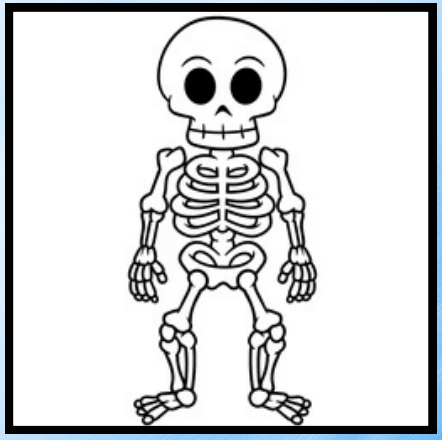
3.1.9-12.B: Develop and use a model to show how body systems, like the muscular system, are organized and work together to perform specific functions.
3.1.6-8.C: Use evidence-based arguments to explain how subsystems like the muscular, skeletal, and nervous systems interact to support body function.
3.1.9-12.A: Explain how DNA determines the structure of proteins that allow specialized muscle cells to perform their functions.

Learning Targets

I can identify the major components of the skeletal system and describe their basic functions.

Learning Targets

I can identify the major bones of the body.



Learning Targets

I can describe how bones grow and repair themselves.

Learning Targets

I can identify different types of joints and explain their function.

Resources

McGraw Hill: Anatomy and Physiology Textbook

Unit Title	Musculoskeletal System (Part II)
Time Frame	2-3 Weeks

INNOVATIVE ARTS ACADEMY

Essential Question(s)

What are the structures and functions of the muscular system in the body?

What is the anatomical structure of a muscle?

What roles does a muscle play in action?

Focus of the Unit

Divisions of the skeletal system, bones and their locations, bone growth, repair, and function, skeletal structure, joints, muscles and their location, muscular contraction, muscular disorders, and skeletal disorders. This unit examines the skeletal and muscular systems, their components, functions, and relationship in providing support and movement

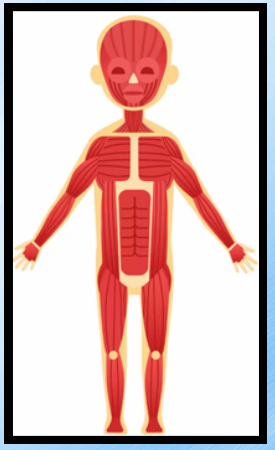
Standards	3.1.9-12.B: Develop and use a model to show how body systems, like the muscular system, are organized and work together to perform specific functions. 3.1.6-8.C: Use evidence-based arguments to explain how subsystems like the muscular, skeletal, and nervous systems interact to support body function. 3.1.9-12.A: Explain how DNA determines the structure of proteins that allow specialized muscle cells to perform their functions.

Learning Targets

I can identify major muscles and describe how the muscular system enables movement.

Learning Targets

I can describe the functions of tendons and ligaments.



Learning Targets

I can explain how muscle fibers are stimulated and contract.

Learning Targets

I can analyze the relationship between the skeletal and muscular systems.

Resources	McGraw Hill: Anatomy and Physiology Textbook

Unit Title	Integumentary System
Time Frame	2-3 Weeks

INNOVATIVE ARTS ACADEMY

Essential Question(s)

What are the structures and functions of the integumentary system?

How do systems within an organism help it to survive? (Focus on protection, regulation).

How do structures influence system functions? (Applied to skin layers, receptors, glands).

Focus of the Unit

This unit introduces the integumentary system, which is the body's protective outer covering. It focuses on identifying the structures and describing the functions of the skin. Students will explore how this system relates to overall body organization and defense.

Standards

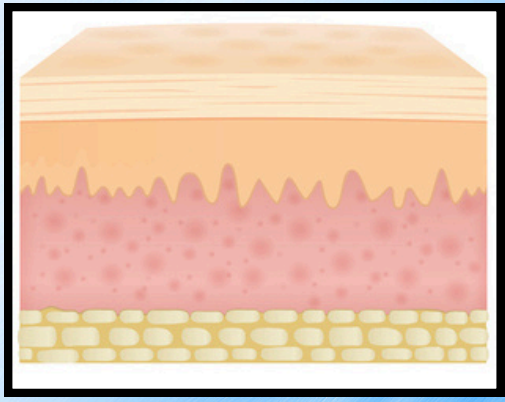
3.1.9-12.B: Create a model to show how systems like the integumentary system are organized and work together to perform specific functions in the body.
3.1.6-8.C: Use evidence to explain how the integumentary system interacts with systems like the nervous and immune systems to maintain health.
3.1.9-12.A: Explain how DNA controls the proteins that allow specialized skin, hair, and nail cells to carry out their functions.

Learning Targets

I can identify the structures of the integumentary system (skin) and describe its functions.

Learning Targets

I can identify the main layers of the skin.



Learning Targets

I can explain the protective role of the skin.

Learning Targets

I can identify common structures found within the skin, such as hair follicles and sweat glands.

Resources

McGraw Hill: Anatomy and Physiology Textbook

Unit Title	**Cardiovascular System**
Time Frame	2-3 Weeks

INNOVATIVE ARTS ACADEMY

Essential Question(s)

What are the structures and functions of the cardiovascular systems?
What is the anatomy of the heart, veins?
What is the composition of blood?

Focus of the Unit

In this unit, students will explore the structure and function of the human cardiovascular system. The focus will be on understanding how the heart, blood, and blood vessels work together to transport oxygen, nutrients, hormones, and waste throughout the body.

Standards

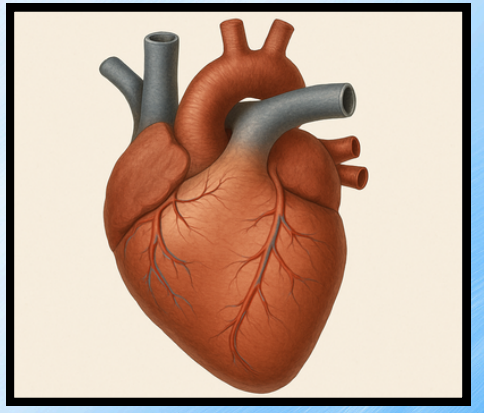
3.1.9-12.B: Model how the cardiovascular system is organized and works with other systems.
3.1.6-8.C: Use evidence to show how the cardiovascular system interacts with the rest of the body.
3.1.9-12.A: Explain how DNA builds proteins that help heart and blood cells function.

Learning Targets

I can identify the main parts of the cardiovascular system (heart, blood vessels, blood) and describe their functions.

Learning Targets

I can describe the composition and different types of blood.



Learning Targets

I can explain how the heart pumps blood throughout the body.

Learning Targets

I can identify the types of blood vessels (arteries, veins, capillaries) and describe their roles.

Resources	**McGraw Hill: Anatomy and Physiology Textbook**

Unit Title	Respiratory System
Time Frame	2-3 Weeks

INNOVATIVE ARTS ACADEMY

Essential Question(s)

What are the structures and functions of the respiratory system?

What is the anatomy of the lungs?

What are the relationships and differences of the respiratory and cardiovascular systems?

Focus of the Unit

This unit examines the respiratory system, responsible for gas exchange. Students will explore how gases like oxygen and carbon dioxide are transported and the relationship between body action and the respiratory system.

Standards

3.1.9-12.B: Model how the respiratory system is organized and works with other systems.
3.1.6-8.C: Use evidence to show how the respiratory system interacts with the cardiovascular and muscular systems.
3.1.9-12.A: Explain how DNA builds proteins that help lung and airway cells do their jobs.

Learning Targets

I can identify the main parts of the respiratory system and describe how it functions in gas exchange.

Learning Targets

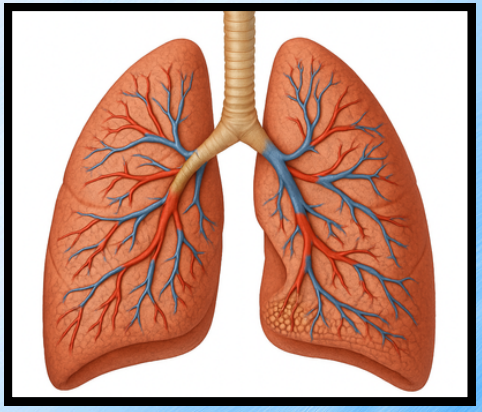
I can describe the process of breathing (inspiration and expiration).

Learning Targets

I can explain how oxygen and carbon dioxide are exchanged in the lungs and tissues.

Learning Targets

I can analyze how physical activity affects the respiratory system.



Resources

McGraw Hill: Anatomy and Physiology Textbook

Unit Title	Digestive System
Time Frame	2-3 Weeks

INNOVATIVE ARTS ACADEMY

Essential Question(s)

What are the structures and functions of the digestive system?

What are the components of the digestive system and how does it relate to daily living?

How does nutrition affect the components of the digestive system?

Focus of the Unit

This unit explores the digestive system, which is mentioned in the context of biochemistry and metabolism in the sources. It covers the structures and functions involved in processing food and nutrient absorption. Students will learn about the organs of the digestive system in detail.

Standards

3.1.9-12.B: Model how the digestive system is organized and works with other body systems.
3.1.6-8.C: Use evidence to explain how the digestive system interacts with the endocrine and circulatory systems.
3.1.9-12.F: Explain how digestion breaks down food into elements used to build larger molecules like proteins.

Learning Targets

I can identify the main components of the digestive system and describe their roles in processing food.

Learning Targets

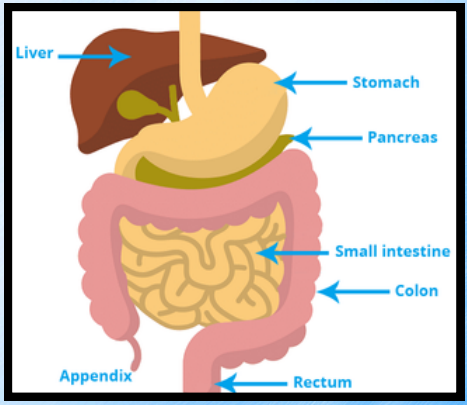
I can describe the path food takes through the digestive system.

Learning Targets

I can explain the roles of organs like the stomach, small intestine, and large intestine.

Learning Targets

I can describe how nutrition impacts the digestive system.



Resources

McGraw Hill: Anatomy and Physiology Textbook

Unit Title	Urinary System/Excretory System
Time Frame	2-3 Weeks

INNOVATIVE ARTS ACADEMY

Essential Question(s)

What are the structures and functions of the urinary/excretory system?

How does the urinary system maintain homeostasis? (Inferred, connects to homeostasis

How do human body systems work together?

Focus of the Unit

Information specifically about the Urinary or Excretory System as a dedicated unit is not available in the provided source excerpts This system's function in waste removal and maintaining fluid balance is a crucial aspect of human anatomy.

Standards

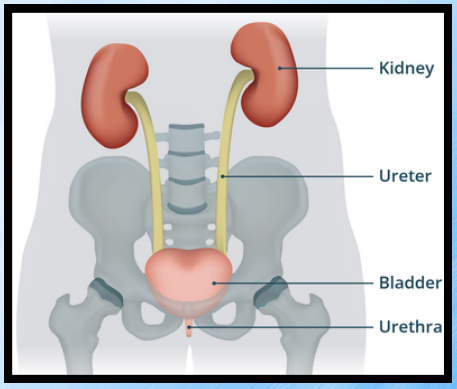
3.1.9-12.B: Model how the urinary system is organized and works with other systems.
3.1.6-8.C: Use evidence to show how the urinary system interacts with the circulatory and endocrine systems.
3.1.9-12.C: Investigate how the urinary system helps maintain fluid and electrolyte balance through feedback mechanisms.

Learning Targets

I can describe the basic function of the urinary system in removing waste from the body.

Learning Targets

I can identify the main organs of the urinary system (kidneys, ureters, bladder, urethra).



Learning Targets

I can explain how the kidneys filter waste from the blood.

Learning Targets

I can describe the process of urine formation and elimination.

Resources

McGraw Hill: Anatomy and Physiology Textbook

Unit Title	Lymphatic System
Time Frame	2-Weeks

INNOVATIVE ARTS ACADEMY

Essential Question(s)

What are the structures and functions of the lymphatic system?

What are the four types of immunity?

How does the lymphatic system relate to a healthy body?

Focus of the Unit

This unit focuses on the lymphatic system, which plays a key role in the body's defense. It covers the structure and function of lymph nodes and lymph cells. Students will analyze the lymphatic system's relationship to other bodily systems and its importance for a healthy body.

Standards

3.1.9-12.B: Model how the lymphatic system is organized and supports other body systems.
3.1.6-8.C: Use evidence to explain how the lymphatic system works with the immune and circulatory systems.
3.1.9-12.A: Explain how DNA builds proteins that help lymph and plasma cells function in immunity.

Learning Targets

I can identify the main parts of the lymphatic system and explain its role in the body's defense.

Learning Targets

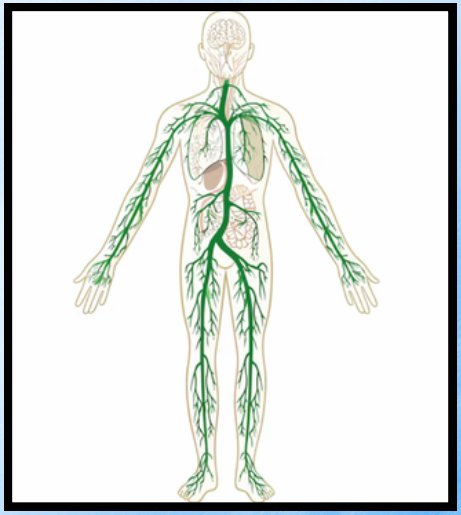
I can identify the location and function of lymph nodes.

Learning Targets

I can describe the role of lymph cells (like B and T cells) in the immune response.

Learning Targets

I can analyze how the lymphatic system works together with other body systems for defense.19



Resources

McGraw Hill: Anatomy and Physiology Textbook

Unit Title	Nervous System
Time Frame	2-3 Weeks

INNOVATIVE ARTS ACADEMY

Essential Question(s)

What are the structures and functions of the nervous system in the body?
What are the components of the nervous system?
What are the structures and functions of senses in the body?

Focus of the Unit

This unit examines the nervous system, responsible for information processing and communication within the body. It covers the divisions and functions of the nervous system, including neurons, nerve impulses, and reflexes.

Standards

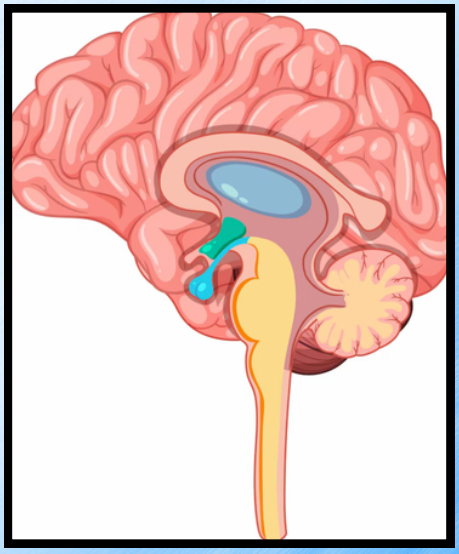
3.1.9-12.B: *Model how the nervous system is organized and controls body functions.*
3.1.6-8.C: *Use evidence to show how the nervous system interacts with all other systems.*
3.1.9-12.A: *Explain how DNA builds proteins that help neurons and glial cells do their jobs.*

Learning Targets

I can identify the main divisions of the nervous system and describe its functions in processing information.

Learning Targets

I can identify the main structures of the brain and describe their functions.



Learning Targets

I can explain how nerve impulses are transmitted.

Learning Targets

I can identify different types of neurons and describe their roles.

Resources

McGraw Hill: Anatomy and Physiology Textbook

Unit Title	Endocrine System
Time Frame	2-3 Weeks

INNOVATIVE ARTS ACADEMY

Essential Question(s)

What are the structures and functions of the endocrine system? (Inferred, based on concept.

How do hormones regulate bodily functions?

How do the endocrine and nervous systems work together?

Focus of the Unit

This unit introduces the endocrine system, which is responsible for producing and regulating hormones throughout the body. It focuses on identifying the structures and describing the functions of the endocrine system.

Standards

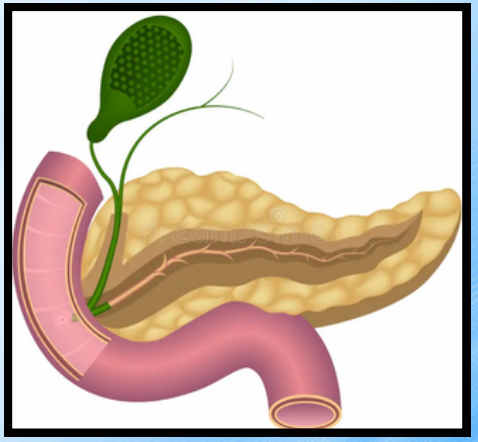
3.1.9-12.B: Model how the endocrine system is organized and works with other systems.
3.1.6-8.C: Use evidence to explain how the endocrine system interacts with the nervous and reproductive systems.
3.1.9-12.C: Investigate how hormonal feedback helps maintain homeostasis.

Learning Targets

I can identify the main structures of the endocrine system and describe its function in regulating hormones.

Learning Targets

I can identify major endocrine glands in the body.



Learning Targets

I can describe how hormones are produced and transported.

Learning Targets

I can explain how the endocrine system helps maintain homeostasis.

Resources

McGraw Hill: Anatomy and Physiology Textbook