

Southern York County School District Instructional Plan

Name:	Dates: August
Course/Subject: Anatomy and Physiology	UNIT 1: Organization of the Human Body
Stage 1 – Desired Results	
<p>PA Standard(s)/Assessment Anchors Addressed:</p> <p>3.3.10 A: Explain the structural and functional similarities and differences found among living things</p> <ul style="list-style-type: none"> ▪ Explain the relationship between structure and function at the molecular and cellular levels. <p>3.3.12 A: Explain the relationship between structure and function at all levels of organization.</p> <ul style="list-style-type: none"> ▪ Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level. <p>3.3.10 B: Describe and explain the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> ▪ Identify specialized structures and regions of the cell and the functions of each. ▪ Explain how cells store and use information to guide their functions. ▪ Explain cell functions and processes in terms of chemical reactions and energy changes. <p>3.3.12 B: Analyze the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> ▪ Identify and describe factors affecting metabolic function. ▪ Evaluate metabolic activities using experimental knowledge of enzymes. ▪ Evaluate relationships between structure and functions of different anatomical parts given their structure. <p>3.2.12 A: Evaluate the nature of scientific and technological knowledge.</p> <ul style="list-style-type: none"> ▪ Know and use the ongoing scientific processes to continually improve and better understand how things work. ▪ Critically evaluate the status of existing theories. <p>3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.</p> <ul style="list-style-type: none"> ▪ Evaluate experimental data correctly with in experimental limits. ▪ Judge that conclusions are consistent and logical with experimental conditions. ▪ Interpret results of experimental research to predict new information or improve a solution. 	
<p>Understanding(s): <i>Students will understand . . .</i></p> <ol style="list-style-type: none"> 1. That the human body is made of the same components as all other matter, involved the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics. 	<p>Essential Question(s):</p> <ul style="list-style-type: none"> ▪ To what extent do chemical reactions affect the human body? ▪ How do scientists and health care professionals use anatomical position?

<p>Learning Objectives: <i>Students will know . . .</i></p> <ul style="list-style-type: none"> ▪ How the human body is organized. ▪ How human body systems relate to one another. ▪ How homeostasis and feedback systems affect the human body. ▪ The anatomical position. ▪ How chemical reactions affect the human body, homeostasis and feedback systems. ▪ How inorganic and organic compounds are used in the human body. ▪ The importance of water to the human body. ▪ How changes in pH can affect the human body. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> ▪ Identify body systems within a mammal. ▪ Describe anatomical position of a mammal. ▪ Define directional terms and the anatomical planes and sections of a mammal. ▪ Describe what happens in a chemical reaction and explain why it is important to the human body. ▪ Demonstrate, analyze and explain the role of pH in the human body. ▪ Demonstrate, analyze and explain the role of chemical reactions in the human body. ▪ Demonstrate, analyze and explain the role of enzymes in the human body.
<p>Name:</p>	<p>Dates: September</p>
<p>Course/Subject: Anatomy and Physiology</p>	<p>UNIT 2: Cells and Tissues</p>
<p>Stage 1 – Desired Results</p>	
<p>PA Standard(s)/Assessment Anchors Addressed:</p> <p>3.3.10 A: Explain the structural and functional similarities and differences found among living things.</p> <ul style="list-style-type: none"> ▪ Explain the relationship between structure and function at the molecular and cellular levels. <p>3.3.12 A: Explain the relationship between structure and function at all levels of organization.</p> <ul style="list-style-type: none"> ▪ Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level. <p>3.3.10 B: Describe and explain the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> ▪ Identify specialized structures and regions of the cell and the functions of each. ▪ Explain how cells store and use information to guide their functions. ▪ Explain cell functions and processes in terms of chemical reactions and energy changes. <p>3.3.12 B: Analyze the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> ▪ Identify and describe factors affecting metabolic function. ▪ Evaluate metabolic activities using experimental knowledge of enzymes. ▪ Evaluate relationships between structure and functions of different anatomical parts given their structure. <p>3.2.12 A: Evaluate the nature of scientific and technological knowledge.</p> <ul style="list-style-type: none"> ▪ Know and use the ongoing scientific processes to continually improve and better understand how things work. ▪ Critically evaluate the status of existing theories. <p>3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.</p> <ul style="list-style-type: none"> ▪ Evaluate experimental data correctly with in experimental limits. ▪ Judge that conclusions are consistent and logical with experimental conditions. ▪ Interpret results of experimental research to predict new information or improve a solution. 	
<p>Understanding(s): <i>Students will understand . . .</i></p> <p>2. That the human body is made of the</p>	<p>Essential Question(s):</p> <ul style="list-style-type: none"> ▪ To what extent does the structure of a cell affect the function of a cell?

<p>same components as all other matter, involved the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics.</p>	<ul style="list-style-type: none"> ▪ To what extent do active and passive processes affect a cell, tissues, and homeostasis of an organism? ▪ How can cellular structure and function cause disease? ▪ To what extent does protein synthesis affect homeostasis? ▪ To what extent does cell division affect tissues, organs and systems within the human body? ▪ To what extent will scientific research benefit disorders of the cells and tissues?
<p>Learning Objectives: Students will know . . .</p> <ul style="list-style-type: none"> ▪ How the structure of a cell affects the function of the cell and tissues. ▪ How substances are actively and passively transported through cell membranes. ▪ How protein pumps actively maintain homeostasis. ▪ How cellular disorders can lead to disease. ▪ How proteins are synthesized within a cell. ▪ How proteins can affect homeostasis and disease. ▪ How cell division can affect cells, tissues, organs, systems and disease within the human body. ▪ How cells are organized into 4 basic types of tissues. ▪ How tissues are characterized and function. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> ▪ Use laboratory techniques to prepare cells for viewing with a microscope. ▪ Locate and identify mammal cells with a microscope. ▪ Demonstrate active and passive transport through cell membranes. ▪ Identify the stages of cellular division in an animal cell. ▪ Identify types of tissue with a microscope. ▪ Identify tissue membranes in the body. ▪ Locate tissues within a mammal.
<p>Name:</p>	<p>Dates: September</p>
<p>Course/Subject: Anatomy and Physiology</p>	<p>UNIT 3: Integumentary System</p>
<p>Stage 1 – Desired Results</p>	

- PA Standard(s)/Assessment Anchors Addressed:**
- 3.3.10 A: Explain the structural and functional similarities and differences found among living things.**
- Explain the relationship between structure and function at the molecular and cellular levels.
- 3.3.12 A: Explain the relationship between structure and function at all levels of organization.**
- Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level.
- 3.3.10 B: Describe and explain the chemical and structural basis of living organisms.**
- Identify specialized structures and regions of the cell and the functions of each.
 - Explain how cells store and use information to guide their functions.
 - Explain cell functions and processes in terms of chemical reactions and energy changes.
- 3.3.12 B: Analyze the chemical and structural basis of living organisms.**
- Identify and describe factors affecting metabolic function.
 - Evaluate metabolic activities using experimental knowledge of enzymes.
 - Evaluate relationships between structure and functions of different anatomical parts given their structure.
- 3.2.12 A: Evaluate the nature of scientific and technological knowledge.**
- Know and use the ongoing scientific processes to continually improve and better understand how things work.
 - Critically evaluate the status of existing theories.
- 3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.**
- Evaluate experimental data correctly with in experimental limits.
 - Judge that conclusions are consistent and logical with experimental conditions.
 - Interpret results of experimental research to predict new information or improve a solution.

<p>Understanding(s): <i>Students will understand . . .</i></p> <p>3. That the human body is made of the same components as all other matter, involve the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics.</p>	<p>Essential Question(s):</p> <ul style="list-style-type: none"> ▪ To what extent does the integumentary system maintain homeostasis in the human body? ▪ To what extent do changes in the structure and function of cells, tissues and organs in the integumentary system affect the human body? ▪ How does aging affect the integumentary system? ▪ To what extent will scientific research benefit disorders of the integumentary system?
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<p>Learning Objectives: <i>Students will know . . .</i></p> <ul style="list-style-type: none"> ▪ How the structure of cells, tissues and organs of the integumentary system affect the function of the system. ▪ How the cells, tissues and organs of the integumentary system maintain homeostasis in the human body. ▪ How tattooing and body piercing affect the integumentary system. ▪ How changes to cells, tissues and organs of the integumentary system affect the human body. ▪ How aging affects the integumentary system. 	<p><i>Students will be able to:</i></p> <ul style="list-style-type: none"> ▪ Use laboratory techniques to prepare cells for viewing with a microscope. ▪ Locate and identify cells and tissues of the integumentary system with a microscope. ▪ Explain how aging affects the integumentary system.
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Name:	Dates: October
Course/Subject: Anatomy and Physiology	UNIT 4: Skeletal System
Stage 1 – Desired Results	
<p>PA Standard(s)/Assessment Anchors Addressed:</p> <p>3.3.10 A: Explain the structural and functional similarities and differences found among living things.</p> <ul style="list-style-type: none"> ▪ Explain the relationship between structure and function at the molecular and cellular levels. <p>3.3.12 A: Explain the relationship between structure and function at all levels of organization.</p> <ul style="list-style-type: none"> ▪ Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level. <p>3.3.10 B: Describe and explain the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> ▪ Identify specialized structures and regions of the cell and the functions of each. ▪ Explain how cells store and use information to guide their functions. ▪ Explain cell functions and processes in terms of chemical reactions and energy changes. <p>3.3.12 B: Analyze the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> ▪ Identify and describe factors affecting metabolic function. ▪ Evaluate metabolic activities using experimental knowledge of enzymes. ▪ Evaluate relationships between structure and functions of different anatomical parts given their structure. <p>3.2.12 A: Evaluate the nature of scientific and technological knowledge.</p> <ul style="list-style-type: none"> ▪ Know and use the ongoing scientific processes to continually improve and better understand how things work. ▪ Critically evaluate the status of existing theories. <p>3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.</p> <ul style="list-style-type: none"> ▪ Evaluate experimental data correctly with in experimental limits. ▪ Judge that conclusions are consistent and logical with experimental conditions. ▪ Interpret results of experimental research to predict new information or improve a solution. 	
<p>Understanding(s): <i>Students will understand . . .</i></p> <p>4. That the human body is made of the same components as all other matter, involve the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics.</p>	<p>Essential Question(s):</p> <ul style="list-style-type: none"> ▪ To what extent does the skeletal system maintain homeostasis in the human body? ▪ To what extent do changes in the structure and function of cells, tissues and organs in the skeletal system affect the human body? ▪ How does aging affect the skeletal system? ▪ To what extent will scientific research benefit disorders of the skeletal system?

<p>Learning Objectives: <i>Students will know . . .</i></p> <ul style="list-style-type: none"> ▪ How the structure of cells, tissues and organs of the skeletal system affect the function of the system. ▪ How the cells, tissues and organs of the skeletal system maintain homeostasis in the human body. ▪ The bones of the human body. ▪ How changes to cells, tissues and organs of the skeletal system affect the human body. ▪ How aging affects the skeletal system. ▪ How diseases of the skeletal system affect the human body. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> ▪ Locate and identify cells and tissues of the skeletal system with a microscope. ▪ Identify the bones of the human body. ▪ Identify the structures and functions of mammalian joints. ▪ Identify types of movements at joints in the human body. ▪ Explain how aging and diseases affect the skeletal system and human body.
<p>Name:</p>	<p>Dates: November</p>
<p>Course/Subject: Anatomy and Physiology</p>	<p>UNIT 5: Muscular System</p>
<p>Stage 1 – Desired Results</p>	
<p>PA Standard(s)/Assessment Anchors Addressed:</p> <p>3.3.10 A: Explain the structural and functional similarities and differences found among living things.</p> <ul style="list-style-type: none"> ▪ Explain the relationship between structure and function at the molecular and cellular levels. <p>3.3.12 A: Explain the relationship between structure and function at all levels of organization.</p> <ul style="list-style-type: none"> ▪ Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level. <p>3.3.10 B: Describe and explain the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> ▪ Identify specialized structures and regions of the cell and the functions of each. ▪ Explain how cells store and use information to guide their functions. ▪ Explain cell functions and processes in terms of chemical reactions and energy changes. <p>3.3.12 B: Analyze the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> ▪ Identify and describe factors affecting metabolic function. ▪ Evaluate metabolic activities using experimental knowledge of enzymes. ▪ Evaluate relationships between structure and functions of different anatomical parts given their structure. <p>3.2.12 A: Evaluate the nature of scientific and technological knowledge.</p> <ul style="list-style-type: none"> ▪ Know and use the ongoing scientific processes to continually improve and better understand how things work. ▪ Critically evaluate the status of existing theories. <p>3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.</p> <ul style="list-style-type: none"> ▪ Evaluate experimental data correctly with in experimental limits. ▪ Judge that conclusions are consistent and logical with experimental conditions. ▪ Interpret results of experimental research to predict new information or improve a solution. 	
<p>Understanding(s):</p>	<p>Essential Question(s):</p>

<p>Students will understand . . .</p> <p>5. That the human body is made of the same components as all other matter, involve the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics.</p>	<ul style="list-style-type: none"> ▪ To what extent does the muscular system maintain homeostasis in the human body? ▪ To what extent do changes in the structure and function of cells, tissues and organs in the muscular system affect the human body? ▪ How does aging affect the muscular system? ▪ How do steroids affect the muscular system? ▪ To what extent will scientific research benefit disorders of the muscular system?
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<p>Learning Objectives: Students will know . . .</p> <ul style="list-style-type: none"> ▪ How the structure of cells, tissues and organs of the muscular system affect the function of the system. ▪ How the cells, tissues and organs of the muscular system maintain homeostasis in the human body. ▪ The muscles of the human body. ▪ How changes to cells, tissues and organs of the muscular system affect the human body. ▪ How aging affects the muscular system. ▪ How diseases of the muscular system affect the human body. ▪ How steroids affect the muscular system. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> ▪ Locate and identify cells and tissues of the muscular system with a microscope. ▪ Identify the muscles of the human body. ▪ Demonstrate the relationship of the muscular and skeletal system in terms of movement of the human body. ▪ Explain how aging, diseases, and steroids affect the muscular system.
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Name:	Dates: December
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Course/Subject: Anatomy and Physiology	UNIT 6: Nervous and Sensory System
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Stage 1 – Desired Results

<p>PA Standard(s)/Assessment Anchors Addressed:</p> <p>3.3.10 A: Explain the structural and functional similarities and differences found among living things.</p> <ul style="list-style-type: none"> ▪ Explain the relationship between structure and function at the molecular and cellular levels. <p>3.3.12 A: Explain the relationship between structure and function at all levels of organization.</p> <ul style="list-style-type: none"> ▪ Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level. <p>3.3.10 B: Describe and explain the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> ▪ Identify specialized structures and regions of the cell and the functions of each. ▪ Explain how cells store and use information to guide their functions. ▪ Explain cell functions and processes in terms of chemical reactions and energy changes.

3.3.12 B: Analyze the chemical and structural basis of living organisms.

- Identify and describe factors affecting metabolic function.
- Evaluate metabolic activities using experimental knowledge of enzymes.
- Evaluate relationships between structure and functions of different anatomical parts given their structure.

3.2.12 A: Evaluate the nature of scientific and technological knowledge.

- Know and use the ongoing scientific processes to continually improve and better understand how things work.
- Critically evaluate the status of existing theories.

3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.

- Evaluate experimental data correctly with in experimental limits.
- Judge that conclusions are consistent and logical with experimental conditions.
- Interpret results of experimental research to predict new information or improve a solution.

Understandings:

Students will understand . . .

6. That the human body is made of the same components as all other matter, involve the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics.

Essential Question(s):

- To what extent does the nervous system maintain homeostasis in the human body?
- To what extent do changes in the structure and function of cells, tissues and organs in the nervous system affect the human body?
- How does aging affect the nervous system?
- How do drugs affect the nervous system?
- To what extent will scientific research benefit disorders of the nervous system?

Learning Objectives:

Students will know . . .

- How the structure of cells, tissues and organs of the nervous system affect the function of the system.
- How the cells, tissues and organs of the nervous system maintain homeostasis in the human body.
- The major nerves of the human body.
- How changes to cells, tissues and organs of the nervous system affect the human body.
- How aging affects the nervous system.
- How diseases of the nervous system affect the human body.
- How drugs affect the nervous system.
- How stem cell research will affect nerve cell regeneration and other disorders of the nervous system.
- How the structure of cells, tissues and organs of the sensing system affect the function of the system.

Students will be able to:

- Locate and identify cells and tissues of the nervous system with a microscope.
- Identify the major nerves central and peripheral nervous systems in a human body.
- Demonstrate the relationship of the muscular and nervous system in terms of movement of the human body.
- Design a laboratory experiment to test somatic nervous system responses.
- Differentiate between the somatic and autonomic nervous systems.
- Perform tests of the sensing systems.
- Describe the affects of aging, diseases, and drugs on the nervous system.
- Explain the purposes of stem cell research.

Name:

Dates: January

Course/Subject: Anatomy and Physiology

UNIT 7: Endocrine System

Stage 1 – Desired Results

PA Standard(s)/Assessment Anchors Addressed:

3.3.10 A: Explain the structural and functional similarities and differences found among living things.

- Explain the relationship between structure and function at the molecular and cellular levels.

3.3.12 A: Explain the relationship between structure and function at all levels of organization.

- Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level.

3.3.10 B: Describe and explain the chemical and structural basis of living organisms.

- Identify specialized structures and regions of the cell and the functions of each.
- Explain how cells store and use information to guide their functions.
- Explain cell functions and processes in terms of chemical reactions and energy changes.

3.3.12 B: Analyze the chemical and structural basis of living organisms.

- Identify and describe factors affecting metabolic function.
- Evaluate metabolic activities using experimental knowledge of enzymes.
- Evaluate relationships between structure and functions of different anatomical parts given their structure.

3.2.12 A: Evaluate the nature of scientific and technological knowledge.

- Know and use the ongoing scientific processes to continually improve and better understand how things work.
- Critically evaluate the status of existing theories.

3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.

- Evaluate experimental data correctly within experimental limits.
- Judge that conclusions are consistent and logical with experimental conditions.
- Interpret results of experimental research to predict new information or improve a solution.

Understanding(s):

Students will understand . . .

7. That the human body is made of the same components as all other matter, involve the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics.

Essential Question(s):

- To what extent does the endocrine system maintain homeostasis in the human body?
- To what extent do changes in the structure and function of cells, tissues and organs in the endocrine system affect the human body?
- How does aging affect the endocrine system?
- How do drugs affect the endocrine system?
- To what extent will scientific research benefit disorders of the endocrine system?

Learning Objectives:

<p>Students will know . . .</p> <ul style="list-style-type: none"> ▪ How the structure of cells, tissues and organs of the endocrine system affect the function of the system. ▪ How the cells, tissues and organs of the endocrine system maintain homeostasis in the human body. ▪ The glands of the endocrine system of the human body. ▪ How changes to cells, tissues and organs of the endocrine system affect the human body. ▪ How aging affects the endocrine system. ▪ How diseases of the endocrine system affect the human body. ▪ How drugs affect the endocrine system. ▪ How scientific research will affect disorders of the endocrine system. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> ▪ Locate and identify cells and tissues of the endocrine system with a microscope. ▪ Identify the major glands of the endocrine system in a human body. ▪ Demonstrate the relationship of the endocrine system and homeostasis of the human body. ▪ Describe affects of aging, diseases, and drugs on the endocrine system.
<p>Name:</p>	<p>Dates: February</p>
<p>Course/Subject: Anatomy and Physiology</p>	<p>UNIT 8: Cardiovascular System</p>
<p>Stage 1 – Desired Results</p>	
<p>PA Standard(s)/Assessment Anchors Addressed:</p> <p>3.3.10 A: Explain the structural and functional similarities and differences found among living things.</p> <ul style="list-style-type: none"> ▪ Explain the relationship between structure and function at the molecular and cellular levels. <p>3.3.12 A: Explain the relationship between structure and function at all levels of organization.</p> <ul style="list-style-type: none"> ▪ Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level. <p>3.3.10 B: Describe and explain the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> ▪ Identify specialized structures and regions of the cell and the functions of each. ▪ Explain how cells store and use information to guide their functions. ▪ Explain cell functions and processes in terms of chemical reactions and energy changes. <p>3.3.12 B: Analyze the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> ▪ Identify and describe factors affecting metabolic function. ▪ Evaluate metabolic activities using experimental knowledge of enzymes. ▪ Evaluate relationships between structure and functions of different anatomical parts given their structure. <p>3.2.12 A: Evaluate the nature of scientific and technological knowledge.</p> <ul style="list-style-type: none"> ▪ Know and use the ongoing scientific processes to continually improve and better understand how things work. ▪ Critically evaluate the status of existing theories. <p>3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.</p> <ul style="list-style-type: none"> ▪ Evaluate experimental data correctly with in experimental limits. ▪ Judge that conclusions are consistent and logical with experimental conditions. ▪ Interpret results of experimental research to predict new information or improve a solution. 	
<p>Understanding(s):</p>	<p>Essential Question(s):</p>

<p>Students will understand . . .</p> <p>8. That the human body is made of the same components as all other matter, involve the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics.</p>	<ul style="list-style-type: none"> ▪ To what extent does the cardiovascular system maintain homeostasis in the human body? ▪ To what extent do changes in the structure and function of cells, tissues and organs in the cardiovascular system affect the human body? ▪ How does aging affect the cardiovascular system? ▪ To what extent will scientific research benefit disorders of the cardiovascular system?
<p>Learning Objectives: Students will know . . .</p> <ul style="list-style-type: none"> ▪ How the structure of cells, tissues and organs of the cardiovascular system affect the function of the system. ▪ How the cells, tissues and organs of the cardiovascular system maintain homeostasis in the human body. ▪ The tissues and organs of the cardiovascular system of the human body. ▪ How changes to cells, tissues and organs of the cardiovascular system affect the human body. ▪ How aging affects the cardiovascular system. ▪ How diseases of the cardiovascular system affect the human body. ▪ How scientific research will affect disorders of the cardiovascular system. 	<p>Students will be able to:</p> <ul style="list-style-type: none"> ▪ Locate and identify cells and tissues of the cardiovascular system with a microscope. ▪ Identify the major components of the cardiovascular system in a human body. ▪ Determine blood pressure. ▪ Identify blood types. ▪ Explain how aging and diseases affect the cardiovascular system.
<p>Name:</p>	<p>Dates: February</p>
<p>Course/Subject: Anatomy and Physiology</p>	<p>UNIT 9: Lymphatic System</p>
<p>Stage 1 – Desired Results</p>	
<p>PA Standard(s)/Assessment Anchors Addressed:</p> <p>3.3.10 A: Explain the structural and functional similarities and differences found among living things.</p> <ul style="list-style-type: none"> ▪ Explain the relationship between structure and function at the molecular and cellular levels. <p>3.3.12 A: Explain the relationship between structure and function at all levels of organization.</p> <ul style="list-style-type: none"> ▪ Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level. <p>3.3.10 B: Describe and explain the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> ▪ Identify specialized structures and regions of the cell and the functions of each. ▪ Explain how cells store and use information to guide their functions. ▪ Explain cell functions and processes in terms of chemical reactions and energy changes. 	

- 3.3.12 B: Analyze the chemical and structural basis of living organisms.**
- Identify and describe factors affecting metabolic function.
 - Evaluate metabolic activities using experimental knowledge of enzymes.
 - Evaluate relationships between structure and functions of different anatomical parts given their structure.
- 3.2.12 A: Evaluate the nature of scientific and technological knowledge.**
- Know and use the ongoing scientific processes to continually improve and better understand how things work.
 - Critically evaluate the status of existing theories.
- 3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.**
- Evaluate experimental data correctly with in experimental limits.
 - Judge that conclusions are consistent and logical with experimental conditions.
 - Interpret results of experimental research to predict new information or improve a solution.

<p>Understanding(s): <i>Students will understand . . .</i></p> <p>9. That the human body is made of the same components as all other matter, involve the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics.</p>	<p>Essential Question(s):</p> <ul style="list-style-type: none"> ▪ To what extent does the lymphatic system maintain homeostasis in the human body? ▪ To what extent do changes in the structure and function of cells, tissues and organs in the lymphatic system affect the human body? ▪ How does aging affect the lymphatic system? ▪ To what extent will scientific research benefit disorders of the lymphatic system?
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Name:	Dates: March
Course/Subject: Anatomy and Physiology	UNIT 10: Respiratory System

Stage 1 – Desired Results

- PA Standard(s)/Assessment Anchors Addressed:**
- 3.3.10 A: Explain the structural and functional similarities and differences found among living things.**
- Explain the relationship between structure and function at the molecular and cellular levels.
- 3.3.12 A: Explain the relationship between structure and function at all levels of organization.**
- Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level.
- 3.3.10 B: Describe and explain the chemical and structural basis of living organisms.**
- Identify specialized structures and regions of the cell and the functions of each.
 - Explain how cells store and use information to guide their functions.
 - Explain cell functions and processes in terms of chemical reactions and energy changes.
- 3.3.12 B: Analyze the chemical and structural basis of living organisms.**
- Identify and describe factors affecting metabolic function.
 - Evaluate metabolic activities using experimental knowledge of enzymes.
 - Evaluate relationships between structure and functions of different anatomical parts given their structure.

<p>3.2.12 A: Evaluate the nature of scientific and technological knowledge.</p> <ul style="list-style-type: none"> Know and use the ongoing scientific processes to continually improve and better understand how things work. Critically evaluate the status of existing theories. <p>3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.</p> <ul style="list-style-type: none"> Evaluate experimental data correctly within experimental limits. Judge that conclusions are consistent and logical with experimental conditions. Interpret results of experimental research to predict new information or improve a solution. 	
<p>Understanding(s): <i>Students will understand . . .</i></p> <p>10. That the human body is made of the same components as all other matter, involve the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics.</p>	<p>Essential Question(s):</p> <ul style="list-style-type: none"> To what extent does the respiratory system maintain homeostasis in the human body? To what extent do changes in the structure and function of cells, tissues and organs in the respiratory system affect the human body? How does aging affect the respiratory system? To what extent will scientific research benefit disorders of the respiratory system?
Name:	Dates: March
Course/Subject: Anatomy and Physiology	UNIT 11: Digestive System and Nutrition
Stage 1 – Desired Results	
<p>PA Standard(s)/Assessment Anchors Addressed:</p> <p>3.3.10 A: Explain the structural and functional similarities and differences found among living things.</p> <ul style="list-style-type: none"> Explain the relationship between structure and function at the molecular and cellular levels. <p>3.3.12 A: Explain the relationship between structure and function at all levels of organization.</p> <ul style="list-style-type: none"> Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level. <p>3.3.10 B: Describe and explain the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> Identify specialized structures and regions of the cell and the functions of each. Explain how cells store and use information to guide their functions. Explain cell functions and processes in terms of chemical reactions and energy changes. <p>3.3.12 B: Analyze the chemical and structural basis of living organisms.</p> <ul style="list-style-type: none"> Identify and describe factors affecting metabolic function. Evaluate metabolic activities using experimental knowledge of enzymes. Evaluate relationships between structure and functions of different anatomical parts given their structure. 	

- 3.2.12 A: Evaluate the nature of scientific and technological knowledge.**
- Know and use the ongoing scientific processes to continually improve and better understand how things work.
 - Critically evaluate the status of existing theories.
- 3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.**
- Evaluate experimental data correctly within experimental limits.
 - Judge that conclusions are consistent and logical with experimental conditions.
 - Interpret results of experimental research to predict new information or improve a solution.

<p>Understanding(s): <i>Students will understand . . .</i></p> <p>11. That the human body is made of the same components as all other matter, involve the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics.</p>	<p>Essential Question(s):</p> <ul style="list-style-type: none"> ▪ To what extent does the digestive system maintain homeostasis in the human body? ▪ To what extent do changes in the structure and function of cells, tissues and organs in the digestive system affect the human body? ▪ How does aging affect the digestive system? ▪ To what extent will scientific research benefit disorders of the digestive system?
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Name:	Dates: April
Course/Subject: Anatomy and Physiology	UNIT 12: Urinary System

Stage 1 – Desired Results

- PA Standard(s)/Assessment Anchors Addressed:**
- 3.3.10 A: Explain the structural and functional similarities and differences found among living things.**
- Explain the relationship between structure and function at the molecular and cellular levels.
- 3.3.12 A: Explain the relationship between structure and function at all levels of organization.**
- Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level.
- 3.3.10 B: Describe and explain the chemical and structural basis of living organisms.**
- Identify specialized structures and regions of the cell and the functions of each.
 - Explain how cells store and use information to guide their functions.
 - Explain cell functions and processes in terms of chemical reactions and energy changes.
- 3.3.12 B: Analyze the chemical and structural basis of living organisms.**
- Identify and describe factors affecting metabolic function.
 - Evaluate metabolic activities using experimental knowledge of enzymes.
 - Evaluate relationships between structure and functions of different anatomical parts given their structure.

3.2.12 A: Evaluate the nature of scientific and technological knowledge.

- Know and use the ongoing scientific processes to continually improve and better understand how things work.
- Critically evaluate the status of existing theories.

3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.

- Evaluate experimental data correctly within experimental limits.
- Judge that conclusions are consistent and logical with experimental conditions.
- Interpret results of experimental research to predict new information or improve a solution.

Understanding(s):

Students will understand . . .

12. That the human body is made of the same components as all other matter, involve the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics.

Essential Question(s):

- To what extent does the urinary system maintain homeostasis in the human body?
- To what extent do changes in the structure and function of cells, tissues and organs in the urinary system affect the human body?
- How does aging affect the urinary system?
- To what extent will scientific research benefit disorders of the urinary system?

Learning Objectives:

Students will know . . .

- How the structure of cells, tissues and organs of the urinary system affect the function of the system.
- How the cells, tissues and organs of the urinary system maintain homeostasis in the human body.
- The tissues and organs of the urinary system of the human body.
- How changes to cells, tissues and organs of the urinary system affect the human body.
- How aging affects the urinary system.
- How diseases of the urinary system affect the human body.
- How scientific research will affect disorders of the urinary system.

Students will be able to:

- Locate and identify cells and tissues of the urinary system with a microscope.
- Identify the major components of the urinary system in a human body.
- Analyze urine for protein, ketones, glucose, blood, pH and other components.
- Explain how aging and diseases affect the urinary system.

Name:

Dates: May

Course/Subject: Anatomy and Physiology

UNIT 13: Reproductive System

Stage 1 – Desired Results

PA Standard(s)/Assessment Anchors Addressed:

3.3.10 A: Explain the structural and functional similarities and differences found among living things.

- Explain the relationship between structure and function at the molecular and cellular levels.

3.3.12 A: Explain the relationship between structure and function at all levels of organization.

- Explain and analyze the relationship between structure and function at the molecular, cellular and organ-system level.

3.3.10 B: Describe and explain the chemical and structural basis of living organisms.

- Identify specialized structures and regions of the cell and the functions of each.
- Explain how cells store and use information to guide their functions.
- Explain cell functions and processes in terms of chemical reactions and energy changes.

3.3.12 B: Analyze the chemical and structural basis of living organisms.

- Identify and describe factors affecting metabolic function.
- Evaluate metabolic activities using experimental knowledge of enzymes.
- Evaluate relationships between structure and functions of different anatomical parts given their structure.

3.2.12 A: Evaluate the nature of scientific and technological knowledge.

- Know and use the ongoing scientific processes to continually improve and better understand how things work.
- Critically evaluate the status of existing theories.

3.2.12 B: Evaluate experimental information for appropriateness and adherence to relevant science processes.

- Evaluate experimental data correctly with in experimental limits.
- Judge that conclusions are consistent and logical with experimental conditions.
- Interpret results of experimental research to predict new information or improve a solution.

Understanding(s):

Students will understand . . .

13. That the human body is made of the same components as all other matter, involve the same kinds of transformations of energy and move using the same basic kinds of forces described in chemistry and physics.

Essential Question(s):

- To what extent does the reproductive system maintain homeostasis in the human body?
- To what extent do changes in the structure and function of cells, tissues and organs in the reproductive system affect the human body?
- How does aging affect the reproductive system?
- To what extent will scientific research benefit disorders of the reproductive system?

Learning Objectives:

Students will know . . .

- How the structure of cells, tissues and organs of the reproductive system affect the function of the system.
- How the cells, tissues and organs of the reproductive system maintain homeostasis in the human body.
- The tissues and organs of the reproductive system of the human body.
- How changes to cells, tissues and organs of the reproductive system affect the human body.
- How aging affects the reproductive system.
- How diseases of the reproductive system affect the human body.
- How scientific research will affect disorders of the reproductive system.

Students will be able to:

- Locate and identify cells and tissues of the reproductive system with a microscope.
- Identify the major components of the reproductive system in a human body.
- Analyze the results of ELISA testing for antibodies to determine sexually transmitted disease infection.
- Explain how aging affects the reproduction system.