

Curriculum: Human Biology

Curricular Unit: Introduction to the Human Body

Instructional Unit: A.

- Describe the levels of organization within the human body and the concept of homeostasis and feedback control mechanisms
- Model and describe anatomical position, directional terms, body planes, cavities, sections and regions

Standard Alignments (Section 2)

SCCLE: SC3.1.C; SC3.2,C,F; SC7.1.A,C

Knowledge: (CA) 3 (MA) 6 (SC) 3,7,8

CCSS: 11-12.RST.2; 11-12.RST.4; 11-12.RST.7; 11-12.RST.9; 11-12.RST.10; S-ID.1

NETS: 1a

Performance: 1.3, 1.6, 1.8, 1.10

Unit (Section 3)

Learning Targets:

- List and describe the levels of organization
- Model and describe the anatomical position, anatomical directions, body cavities, planes, sections, and regions
- Define homeostasis and provide examples of positive and negative feedback loops

Instructional Strategies:

- Organizations within the human body:
 - The teacher will lead a discussion to describe the levels of organization in the human body
 - Students will describe and organize vocabulary in order of organization using teacher-created activities and card sorts
- Anatomical terms:
 - The teacher will utilize the “I do-We do-You do” method to model the usage of anatomical terms
 - Students will:
 - describe:
 - the anatomical position
 - and appropriately use the anatomical directional terms
 - identify:
 - and diagram the abdominopelvic regions, cavities, and sections
 - the abdominopelvic regions using the regions game sheet
- Homeostasis:
 - The teacher will lead a discussion about homeostasis and feedback mechanisms
 - Students will analyze and evaluate homeostatic scenarios on teacher-created activities and laboratories

<ul style="list-style-type: none"> • WebQuest: <ul style="list-style-type: none"> • The teacher will provide a WebQuest for students to learn about the body cavities • Students will identify and describe the body cavities by completing the teacher-created WebQuest • PBL courses: <ul style="list-style-type: none"> • The teacher will facilitate a project that encompasses the human body: <ul style="list-style-type: none"> • anatomical directions • regions • planes • cavities • sections • Students will use available technology to complete teacher-created activities that will include a model of the human body to demonstrate mastery of the learning targets
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> • Formative: <ul style="list-style-type: none"> • Teacher-created formative assessment of anatomical position, directions, and planes • Critical friends using project scoring guide • Summative: <ul style="list-style-type: none"> • Common assessment • Teacher-created quiz over abdominopelvic regions • Project – assessed using a scoring guide
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> • The relationship between the knee and the ankle can be described as: <ul style="list-style-type: none"> a. the knee is inferior to the ankle b. the knee is proximal to the ankle c. the knee is distal to the ankle d. both A and B above • Explain homeostasis and give one example of how the body maintains homeostasis.
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> • Wisc Online Body Cavities https://www.wisc-online.com/learn/natural-science/life-science/ap15505/the-organization-of-the-human-body--body-cavities • Computer • iPad • Projector • <i>Human Biology</i> textbook • Teacher-assigned reading materials
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> • ELA: <ul style="list-style-type: none"> • Summarizing texts • Determining meaning of science terminology and symbols • Integrating and evaluating multiple sources of information • Synthesizing information • Science reading comprehension • Math: Graphing

Depth of Knowledge (Section 5)

DOK: 2

Curriculum: Human Biology

Curricular Unit: Integumentary System and Tissues

Instructional Unit: B. Tissue – Describe the structure and function of the tissue types of the body and layers of the integumentary system, discussing health related topics of the skin with relation to the integumentary system

Standard Alignments (Section 2)

SCCLE: SC3.1.C; SC7.1.A-D
Knowledge: (CA) 3 (SC) 3,7,8
HEGLE: FIS.1.D.4,5 (Concept only)
CCSS: 11-12.RST.2; 11-12.RST.4; 11-12.RST.7; 11-12.RST.9; 11-12.RST.10;
11-12.WHST.1a-e
NETS: 6a
Performance: 1.2, 1.4, 1.8, 2.1, 4.7

Unit (Section 3)

Learning Targets:

- Locate and describe the tissue types of the body
- Model and describe the functions and structures found within the layers of the integumentary system
- Describe health related issues of the skin and how it relates to the function of the integumentary system

Instructional Strategies:

- Integumentary System:
 - The teacher will lead a discussion to describe the integumentary system
 - Students will:
 - describe the different:
 - functions of the integumentary system
 - layers of the integumentary system (including their components and relative locations)
 - identify the organs of the integumentary system and their functions
- Tissue types:
 - The teacher will utilize the “I do-We do-You do” method to model the identification of the different tissue types
 - Students will examine different prepared slides to identify their tissue types
- Skin assessment:
 - The teacher will prepare and facilitate a laboratory for skin assessment
 - Students will test characteristics of the skin during the Skin Assessment laboratory
- WebQuest:
 - The teacher will provide WebQuests for students to learn about tissues and the integumentary system

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<ul style="list-style-type: none"> Students will identify and describe the: <ul style="list-style-type: none"> types of tissues structure and function of the integumentary system by completing the teacher-created WebQuest PBL courses: <ul style="list-style-type: none"> The teacher will facilitate a research project about a health issue related to the tissues and integumentary system Students will use available technology to construct knowledge through research and develop a presentation to demonstrate mastery of the learning targets
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> Formative: <ul style="list-style-type: none"> Entry slips Critical friends using the project scoring guide Summative: <ul style="list-style-type: none"> Common assessment Project – assessed using a scoring guide
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> Describe how the skin performs each of the three major functions of protection, temperature regulation, and sense organ. What are the four major types of tissues?
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> Skin as an Organ http://scienetlinks.com/esheets/skin-as-an-organ/ Skin and the Integumentary System https://www.wisc-online.com/learn/natural-science/life-science/ap12204/skin-and-the-integumentary-system Tissues http://www.biologycorner.com/anatomy/tissues/ch5_notes.html Computer iPad Projector <i>Human Biology</i> textbook Teacher-assigned reading materials
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> ELA: <ul style="list-style-type: none"> Summarizing texts Determining meaning of science terminology and symbols Integrating and evaluating multiple sources of information Synthesizing information Science reading comprehension Evaluating scientific experimentation and findings (of health related issues) Health: Integumentary system

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Human Biology

Curricular Unit: Skeletal System

Instructional Unit: C. Skeleton – Describe the structure and function, and discuss health related topics of the skeletal system

Standard Alignments (Section 2)

SCCLE: SC3.2.C; SC7.1.A-D
Knowledge: (CA) 3 (SC) 3,7,8
HEGLE: FIS.1.C (Gr. 9-12)
CCSS: 11-12.RST.2; 11-12.RST.4; 11-12.RST.7; 11-12.RST.9; 11-12.RST.10;
11-12.WHST.1a-e
NETS: 3a
Performance: 1.2, 1.6, 1.8

Unit (Section 3)

Learning Targets:

- Identify and describe the structure and function of the bones of the male and female axial and appendicular skeleton
- Describe the process of bone growth and repair from a cellular level and how it affects an organism as a whole
- List and describe or model the different types of joints found in the human body
- Describe health related issues of the skeleton and how it relates to the function of the skeletal system

Instructional Strategies:

- Skeleton:
 - The teacher will lead a discussion to identify and describe the structure and function of the bones in the human body
 - Students will identify and label diagrams and models of the male and female axial and appendicular skeleton using teacher-created activities and laboratories
- Bone growth and repair:
 - The teacher will provide activities for students to learn about bone growth and repair
 - Students will:
 - use available technology to research and identify bone growth and repair at a cellular level using teacher-created activities
 - describe and label joints in the body using teacher-created activities
- PBL courses:
 - The teacher will facilitate a research project about how the muscular and skeletal system work together while describing a health related topic
 - This project will encompass the learning targets for the unit and the learning targets for the muscular system

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<ul style="list-style-type: none"> Students use available technology to construct knowledge through research and develop a presentation to demonstrate mastery of the learning targets
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> Formative: <ul style="list-style-type: none"> Entry slips Critical friends using the project scoring guide Daily review with skeleton model Summative: <ul style="list-style-type: none"> Common assessment Lab practical Project – assessed using a scoring guide
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> Using a model of the pelvis, explain why this pelvis is male or female? Given a bone, define if it is found in the axial or appendicular skeleton and the type of joint(s) it is involved in
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> Is this skeleton male or female? Smithsonian: http://anthropology.si.edu/writteninbone/comic/activity/pdf/Skeleton_male_or_female.pdf Bozeman podcast about bone structure and function: https://www.youtube.com/watch?v=UPrxQkjjExI&feature=plcp&context=C498a46bVDvjVQa1Pp cFNSsPuVWdxz_FPB4bCm2v_zZ1YofWdARnc%3D Skeleton models Computer iPad Projector <i>Human Biology</i> textbook Teacher-assigned reading materials
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> ELA: <ul style="list-style-type: none"> Summarizing texts Determining meaning of science terminology and symbols Integrating and evaluating multiple sources of information Synthesizing information Science reading comprehension Evaluating scientific experimentation and findings (of health related issues) Health: Skeletal system

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Human Biology

Curricular Unit: Muscular System

Instructional Unit: D. Muscles – Describe the structure and function, and discuss health related topics of the muscular system

Standard Alignments (Section 2)

SCCLE: SC3.2.C,F; SC7.1.A-D
Knowledge: (CA) 3 (SC) 3
HEGLE: FIS.1.B (Gr. 9-12)
CCSS: 11-12.RST.2; 11-12.RST.4; 11-12.RST.7; 11-12.RST.9; 11-12.RST.10;
11-12.WHST.1a-e
NETS: 3a
Performance: 1.8

Unit (Section 3)

Learning Targets:

- Compare and contrast the structure and functions of the three different types of muscle tissues
- Name and identify the skeletal muscle groups
- Explain muscle contraction at the cellular level
- Describe health topics related to the muscles

Instructional Strategies:

- Muscles:
 - The teacher will provide models of an arm to demonstrate attachment points of muscles and how muscles interact
 - Students will:
 - use:
 - their prior knowledge of muscles to assemble the model of the arm with their group
 - teacher provided textbooks or iPads to find a reference for their models
 - textbooks or iPads to identify parts of the arm using specific terminology
 - share their model and why it represents the arm
- Muscle types:
 - The teacher will utilize the “I do-We do-You do” method to model the usage of muscular terminology and identification
 - Students will:
 - describe and appropriately use the types of muscle tissues
 - identify and diagram the muscles and muscle groups

<ul style="list-style-type: none"> • WebQuest: <ul style="list-style-type: none"> • The teacher provides a WebQuest for students to learn about the contraction of muscles at a cellular level • Students will label a sarcomere and describe the role of actin and myosin during muscle contraction • PBL courses: <ul style="list-style-type: none"> • The teacher will facilitate a research project about how the muscular and skeletal systems work together while describing a health related topic • This project will encompass the learning targets for the unit and the learning targets for the skeletal system • Students will use available technology to construct knowledge through research and develop a presentation to demonstrate mastery of the learning targets • Dissection activity: <ul style="list-style-type: none"> • The teacher will facilitate dissection of a fetal pig • Students will work as a group to identify major muscle groups using a teacher provided handout
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> • Formative: <ul style="list-style-type: none"> • Entry slips • Daily review with muscle models • Critical friends using the project scoring guide • Summative: <ul style="list-style-type: none"> • Common Assessment • Project – assessed using a scoring guide • Pig dissection quiz
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> • When the muscle is lengthening this is considered a(n) _____ (eccentric/ concentric) contraction. • Identify muscles on a model or diagram.
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> • Sliding Filament Theory: http://www.biologycorner.com/anatomy/tissues/ch5_notes.html • Muscle contraction video: https://www.youtube.com/watch?v=BMT4PtXRCVA • Muscular system WebQuest <ul style="list-style-type: none"> • http://www.kidshealth.org/kid/htbw/muscles.html • http://www.kidport.com/Grade6/Science/BodyMuscles.htm • http://cwx.prenhall.com/bookbind/pubbooks/martinidemo/chapter11/medialib/CH11/html/ch11_3_3.html • http://exercise.about.com/cs/exbeginners/a/begstrength.htm • Computer • iPad • Projector • <i>Human Biology</i> textbook • Teacher-assigned reading materials

Cross Curricular Connections:

- ELA:
 - Summarizing texts
 - Determining meaning of science terminology and symbols
 - Integrating and evaluating multiple sources of information
 - Synthesizing information
 - Science reading comprehension
 - Evaluating scientific experimentation and findings (of health related issues)
- Health: Muscular system

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Human Biology

Curricular Unit: Nervous and Endocrine System

Instructional Unit: E. Nerves and glands – Describe the structure, function, and communication between the nervous and endocrine systems

Standard Alignments (Section 2)

SCCLE: SC3.1.C; SC3.2.C,F; SC7.1.A-D
Knowledge: (CA) 3 (SC) 3,7
HEGLE: FIS.1.A,G (Gr. 9-12); FIS.1.J (Gr. 8, 9-12)
CCSS: 11-12.RST.2; 11-12.RST.4; 11-12.RST.7; 11-12.RST.9; 11-12.RST.10;
11-12.WHST.1a-e
NETS: 1a
Performance: 1.6

Unit (Section 3)

Learning Targets:

- Describe the structure and function of the organs and divisions of the nervous system
- Distinguish between the peripheral and autonomic nervous systems
- Identify cells of the nervous system and their functions and interactions
- Explain health topics related to the brain
- Explain the role of hormones in the human body, including feedback loops
- Compare and contrast the functions of the endocrine and nervous system

Instructional Strategies:

- Nervous system:
 - The teacher will lead a discussion to identify and describe the:
 - structure and function of the organs
 - divisions of the nervous system
 - Students will:
 - identify and label diagrams and models of the peripheral and autonomic nervous systems using teacher-created activities and labs
 - diagram and label cells of the nervous system using teacher-created activities
- Hormones and the Brain:
 - The teacher will lead a discussion of health topics related to the brain
 - Using teacher-created activities, students will:
 - use available technology to research and explain the role of hormones in the human body
 - describe and label parts of the brain

<ul style="list-style-type: none"> Dissection activity: <ul style="list-style-type: none"> The teacher will facilitate the dissection of a fetal pig Students will work as a group to identify major structures of the nervous and endocrine systems using a teacher-provided handout PBL courses: <ul style="list-style-type: none"> The teacher will facilitate a research project about a health issue related to the nervous and endocrine system Students will: <ul style="list-style-type: none"> use available technology to construct knowledge through research develop a presentation to demonstrate mastery of the learning targets
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> Formative: <ul style="list-style-type: none"> Entry slips Formative quizzes (e.g., parts of the brain) Critical friends using the project scoring guide Summative: <ul style="list-style-type: none"> Common assessment Project – assessed using a scoring guide Fetal pig dissection quiz
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> Label the parts of the neuron. Compare and contrast the peripheral and autonomic nervous systems. Name one function of the hypothalamus.
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> Nervous System: http://www.livescience.com/22665-nervous-system.html Endocrine System: http://www.livescience.com/26496-endocrine-system.html Computer iPad Projector <i>Human Biology</i> textbook Teacher-assigned reading materials
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> ELA: <ul style="list-style-type: none"> Summarizing texts Determining meaning of science terminology and symbols Integrating and evaluating multiple sources of information Synthesizing information Science reading comprehension Evaluating scientific experimentation and findings (of health related issues) Health – studying systems: <ul style="list-style-type: none"> Sensory Nervous Endocrine

Depth of Knowledge (Section 5)

DOK: 2

Curriculum: Human Biology

Curricular Unit: Circulatory System and Blood

Instructional Unit: F. Blood – Describe the structure and function, and discuss health related topics of the circulatory system

Standard Alignments (Section 2)

SCCLE: SC3.2.C,F,G; SC7.1.A-D; SC8.1.B

Knowledge: (CA) 3 (SC) 3,7,8

HEGLE: FIS.1.E (Gr. 9-12)

CCSS: 11-12.RST.2; 11-12.RST.4; 11-12.RST.7; 11-12.RST.9; 11-12.RST.10;

11-12.WHST.1a-e; N-Q.1; N-Q.2; N-Q.3; F-LE.1b; F-LE.5; S-ID.1; S-ID.3;

S-ID.6; S-ID.9

NETS: 5

Performance: 1.6, 1.10, 3.1, 4.7

Unit (Section 3)

Learning Targets:

- Identify the structure and organization of the heart
- Compare and contrast veins, capillaries, and arteries
- Describe components of blood and their functions
- Describe the path of blood through the heart, lungs, and body
- Describe health related topics of the heart and how it relates to the function of the blood and circulatory system

Instructional Strategies:

- Heart:
 - The teacher will facilitate a discussion to identify and describe the structure and organization of the heart
 - Students will identify and label models and teacher-created diagrams of the heart
- Blood:
 - The teacher will provide a WebQuest to facilitate discussion of blood vessels, blood cells, and their functions
 - Students will:
 - use available technology and a teacher-created WebQuest to research and identify similarities and differences among:
 - capillaries
 - veins
 - arteries

<ul style="list-style-type: none"> • identify and describe the types of: <ul style="list-style-type: none"> • blood cells • blood types • diagram the path of blood through the body • Exercise Laboratory: <ul style="list-style-type: none"> • The teacher will prepare and facilitate an exercise laboratory • Students will test factors of the circulatory system such as: <ul style="list-style-type: none"> • heart rate • blood pressure • during the Exercise Laboratory • Dissection activity: <ul style="list-style-type: none"> • The teacher will prepare and facilitate a fetal pig dissection laboratory • Students will dissect the circulatory system of the fetal pig, focusing on the heart • PBL courses: <ul style="list-style-type: none"> • The teacher will facilitate a research project about a health issue related to the circulatory system • Students will use available technology to construct knowledge, through research, and develop a presentation to demonstrate mastery of the learning targets
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> • Formative: <ul style="list-style-type: none"> • Entry slips • Pig dissection – heart identification • Critical friends using the project scoring guide • Summative: <ul style="list-style-type: none"> • Common assessment • Project – assessed using a scoring guide • Pig dissection quiz
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> • Why is one side of the heart larger than the other? Which side is it? • Compare and contrast arteries and veins
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> • Blood clotting and typing: http://kidshealth.org/teen/your_body/medical_care/blood_types.html • Circulatory System WebQuest: http://www.pbs.org/wgbh/nova/heart/ , http://www.pbs.org/wnet/redgold/journey/index.html, http://www.pbs.org/wgbh/nova/heart/ , http://www.pbs.org/wgbh/nova/eheart/transplantwave.html , http://kidshealth.org/PageManager.jsp?lic=1&article_set=54036&cat_id=20607#a_Heart_Parts , http://kidshealth.org/PageManager.jsp?lic=1&article_set=30465&cat_id=20190 • Computer • iPad • Projector • <i>Human Biology</i> textbook • Teacher-assigned reading materials

Cross Curricular Connections:

- ELA:
 - Summarizing texts
 - Determining meaning of science terminology and symbols
 - Integrating and evaluating multiple sources of information
 - Synthesizing information
 - Science reading comprehension
 - Evaluating scientific experimentation and findings (of health related issues)
- Math:
 - Quantitative observations
 - Data analysis
 - Graphical analysis
 - Drawing conclusions from data
 - Statistical analysis
- Health: Cardio/circulatory system

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Human Biology

Curricular Unit: Respiratory System

Instructional Unit: G. Respiration – Describe the structure and function, and discuss health related topics of the respiratory system

Standard Alignments (Section 2)

SCCLE: SC3.2.C,F; SC7.1.A-D
Knowledge: (CA) 3 (SC) 3
HEGLE: FIS.1.F (Gr. 3,4,6,7)
CCSS: 11-12.RST.2; 11-12.RST.4; 11-12.RST.7; 11-12.RST.9; 11-12.RST.10;
11-12.WHST.1a-e
NETS: 5
Performance: 1.6, 1.8, 4.7

Unit (Section 3)

Learning Targets:

- Model and describe how oxygen is delivered to parts of the body and how waste is removed
- Relate the functions of the organs of the respiratory system to their structures
- Analyze the causes and effects of health conditions of the respiratory system
- Use positive and negative feedback loops to describe how respiration rates are controlled in the human body

Instructional Strategies:

- Respiratory system:
 - The teacher will:
 - lead a discussion about the respiratory system's structure and function
 - utilize the "I do-We do-You do" method to model how positive and negative feedback loops control the respiration rates in the human body
 - provide technology and learning opportunities about the structure and functions of the respiratory system
 - facilitate a:
 - project for students to create respiratory system models
 - respiratory laboratory
 - Students will:
 - describe:
 - the respiratory system's structure (including organs and locations)
 - the functions of the respiratory system and how these functions relate to the system's structures
 - how the respiration rates are controlled in the human body

<ul style="list-style-type: none"> utilize graphs to model the effects of positive and negative feedback loops in the respiratory system further explain the structure and functions of the respiratory system create a model that demonstrates how the respiratory system works conduct the Breathing Laboratory to demonstrate how respiratory rates can be affected and the importance of oxygen transport Dissection activity: <ul style="list-style-type: none"> The teacher will prepare and facilitate a fetal pig dissection laboratory Students will dissect the respiratory system of the fetal pig using a teacher-created handout PBL courses: <ul style="list-style-type: none"> The teacher will facilitate a research-based project for the respiratory system Students will complete a research-based project and explain the effects that a respiratory disorder would have on the human body
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> Formative: <ul style="list-style-type: none"> Entry slips Critical friends using the project scoring guide Summative: <ul style="list-style-type: none"> Common assessment Project – assessed using a scoring guide Pig dissection quiz
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> Air moves (into/out of) the lungs when the diaphragm contracts. Describe the pathway of air from the nasal cavity to the blood vessels?
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> Structure and function of the respiratory system: http://science.nationalgeographic.com/science/health-and-human-body/human-body/lungs-article/ Computer iPad Projector <i>Human Biology</i> textbook Teacher-assigned reading materials
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> ELA: <ul style="list-style-type: none"> Summarizing texts Determining meaning of science terminology and symbols Integrating and evaluating multiple sources of information Synthesizing information Science reading comprehension Evaluating scientific experimentation and findings (of health related issues) Health: Respiratory system

Depth of Knowledge (Section 5)

DOK: 3

Curriculum: Human Biology

Curricular Unit: Digestive System

Instructional Unit: H. Digestion – Describe the structure and function, and discuss health related topics of the digestive system

Standard Alignments (Section 2)

SCCLE: SC1.2.F; SC3.2.C,D,F; SC7.1.A-D
Knowledge: (CA) 3 (SC) 1,3,7
HEGLE: FIS.1.H. (Gr. 9-12)
CCSS: 11-12.RST.2; 11-12.RST.4; 11-12.RST.7; 11-12.RST.9; 11-12.RST.10;
11-12.WHST.1a-e
NETS: 5
Performance: 1.8, 4.7

Unit (Section 3)

Learning Targets:

- Identify major organs of the digestive system and describe their functions
- Model the digestive processes as food travels through the digestive system
- Describe the functions of the digestive system as a whole and describe health topics related to the digestive system
- Explain how the body stores and uses energy from food

Instructional Strategies:

- Digestive system:
 - The teacher will lead a discussion to identify and describe the structure and function of the digestive system
 - Students will:
 - identify and label diagrams and models of the digestive system
 - use available technology to design a model of the path that food travels through the digestive system using a teacher-created activity and scoring guide
 - diagram and discuss energy transformation, use, and storage of food in the body using teacher-created lab activities
- PBL courses:
 - The teacher will facilitate a research based project for the digestive system
 - Students will complete a research based project about a health issue related to the digestive system
- Dissection activity:
 - The teacher will prepare and facilitate a fetal pig dissection laboratory
 - Students will dissect the digestive system of the fetal pig using a teacher-created handout

<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> Formative: <ul style="list-style-type: none"> Entry slips Critical friends using the project scoring guide Summative: <ul style="list-style-type: none"> Common assessment Project – assessed using a scoring guide Pig dissection quiz
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> Where does the digestion process begin? What are the three major abdominal accessory organs of the digestive system and their functions?
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> NIH Digestive System: http://digestive.niddk.nih.gov/ddiseases/pubs/yrdd/ Kids Health Digestive System: http://m.kidshealth.org/kid/htbw/digestive_system.html#cat20018 NeoK12 Digestive System: http://www.neok12.com/Digestive-System.htm InnerBody Digestive System: http://www.innerbody.com/image/digeov.html Computer iPad Projector <i>Human Biology</i> textbook Teacher-assigned reading materials
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> ELA: <ul style="list-style-type: none"> Summarizing texts Determining meaning of science terminology and symbols Integrating and evaluating multiple sources of information Synthesizing information Science reading comprehension Evaluating scientific experimentation and findings (of health related issues) Health: Digestive system

Depth of Knowledge (Section 5)

DOK: 2

Curriculum: Human Biology

Curricular Unit: Reproductive and Urinary Systems

Instructional Unit: I. Reproduction and urinary – Describe the structure and function, and discuss health related topics of the urinary and reproductive systems of both males and females

Standard Alignments (Section 2)

SCCLE: SC3.2.A; SC3.3.C; SC7.1.A-D

Knowledge: (CA) 3 (SC) 1-3

HEGLE: FIS.1.I,K (Gr. 9-12)

CCSS: 11-12.RST.2; 11-12.RST.4; 11-12.RST.7; 11-12.RST.9; 11-12.RST.10;
11-12.WHST.1a-e

NETS: 5

Performance: 1.6, 4.7

Unit (Section 3)

Learning Targets:

- Identify the organs of the urinary system and describe the structures and functions of those organs
- Model the pathway of urine from formation to urination
- Describe the functions of the essential and accessory organs of the male and female reproductive system and identify their locations
- Describe health topics related to the reproductive and urinary system of males and females

Instructional Strategies:

- Reproductive and urinary systems:
 - The teacher will:
 - lead a discussion to describe the reproductive and urinary systems
 - facilitate an activity in which students will create models for the urinary and reproductive systems
 - Students will:
 - describe the reproductive and urinary systems, including:
 - structure
 - location
 - essential and accessory organs
 - functions
 - compare and contrast the male and female urinary and reproductive systems
 - create a model:
 - of the pathway of urine from formation to urine
 - for the male and/or female reproductive system

Board Approved 8-3-15

<ul style="list-style-type: none"> • PBL courses: <ul style="list-style-type: none"> • The teacher will facilitate a research-based project for the reproductive and urinary systems • Students will complete a research-based project about a health issue related to the reproductive and urinary systems • Dissection activity: <ul style="list-style-type: none"> • The teacher will prepare and facilitate a fetal pig dissection laboratory • Students will dissect the reproductive and urinary system of the fetal pig using a teacher-created handout
<p>Assessments/Evaluations:</p> <ul style="list-style-type: none"> • Formative: <ul style="list-style-type: none"> • Entry slips • Daily review with diagrams/models • Critical friends using the project scoring guide • Summative: <ul style="list-style-type: none"> • Common assessment • Project – assessed using a scoring guide • Pig dissection quiz
<p>Sample Assessment Questions:</p> <ul style="list-style-type: none"> • How do the kidneys filter blood? • Describe the flow of urine from the kidneys to the toilet for a male and a female. • What are the essential reproductive organs for a male and female?
<p>Instructional Resources/Tools:</p> <ul style="list-style-type: none"> • Reproductive organ models • Male vs. Female reproductive system: http://www.kidshealth.org/teen/sexual_health/changing_body/female_repro.html; http://www.kidshealth.org/teen/sexual_health/guys/male_repro.html • Urinary System: http://www.stanfordchildrens.org/en/topic/default?id=anatomy-of-the-urinary-system-85-P01468 • Computer • iPad • Projector • <i>Human Biology</i> textbook • Teacher-assigned reading materials
<p>Cross Curricular Connections:</p> <ul style="list-style-type: none"> • ELA: <ul style="list-style-type: none"> • Summarizing texts • Determining meaning of science terminology and symbols • Integrating and evaluating multiple sources of information • Synthesizing information • Science reading comprehension • Evaluating scientific experimentation and findings (of health related issues) • Health – studying systems: <ul style="list-style-type: none"> • Urinary/excretory • Reproduction

Depth of Knowledge (Section 5)

DOK: 2
