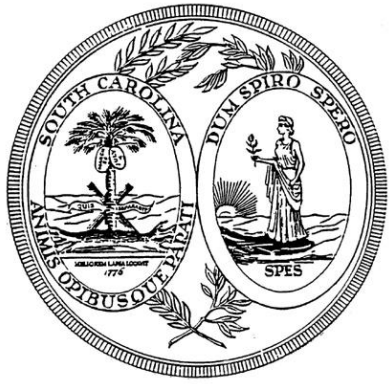
South Carolina Academic Standards and Performance Indicators for Science 2014



Instructional Units Resource

7th Grade

South Carolina Academic Standards and Performance Indicators for Science 2014
Seventh Grade Science Instructional Unit Resource

As support for implementing the *South Carolina Academic Standards and Performance Indicators for Science 2014*, the standards for Seventh Grade have been grouped into possible units. In the Overview of Units below, the titles for those possible units are listed in columns. Refer to the Overview document to note these unit titles and how Standards, Conceptual Understandings, Performance Indicators, Science and Engineering Practices, and Crosscutting Concepts align. Following the Overview of Units, an Instructional Unit document is provided that delivers guidance and possible resources in teaching our new *South Carolina Academic Standards and Performance Indicators for Science 2014*. The purpose of this document is to provide guidance as to how all the standards in this grade may be grouped into units and how those units might look. Since this document is merely guidance, districts should implement the standards in a manner that addresses the district curriculum and the needs of students. This document is a living document and instructional leaders from around the state will continuously update and expand these resource documents. These documents will be released throughout the 2016-2017 school year with the intentionality of staying ahead of instruction. Teachers should also note that links to the Standards document, A Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas, the SEP Support Document, and the Support Document 2.0 are embedded throughout the Instructional Unit format for reference.

Acknowledgments

Jean Baptiste Massieu, famous deaf educator, made a statement that is now considered a French proverb. “Gratitude is the memory of the heart. Indeed, appreciation comes when you feel grateful from the depths of your heart. The head keeps an account of all the benefits you received and gave. But the heart records the feelings of appreciation, humility, and generosity that one feels when someone showers you with kindness.” It is with sincere appreciation that we humbly acknowledge the dedication, hard work and generosity of time provided by teachers and instructional leaders across the state that have made and are continuing to make the Instructional Unit Resources possible.

Grade 7 Overview of Units

Unit 1		Unit 2		Unit 3	Unit 4	
PHYSICAL SCIENCE: CLASSIFICATION AND CONSERVATION OF MATTER		LIFE SCIENCE: ORGANIZATION IN LIVING SYSTEMS		LIFE SCIENCE: HEREDITY – INHERITANCE AND VARIATION OF TRAITS	ECOLOGY: INTERACTIONS OF LIVING SYSTEMS AND THE ENVIRONMENT	
Standard		**Standard**		**Standard**	**Standard**	
7.P.2		7.L.3		7.L.4	7.EC.5	
Conceptual Understanding		**Conceptual Understanding**		**Conceptual Understanding**	**Conceptual Understanding**	
7.P.2A	7.P.2B	7.L.3A	7.L.3B	7.L.4A	7.EC.5A	7.EC.5B
Performance Indicators		**Performance Indicators**		**Performance Indicators**	**Performance Indicators**	
7.P.2A.1 7.P.2A.2 7.P.2A.3 7.P.2A.4	7.P.2B.1 7.P.2B.2 7.P.2B.3 7.P.2B.4 7.P.2B.5	7.L.3A.1 7.L.3A.2 7.L.3A.3 7.L.3A.4	7.L.3B.1 7.L.3B.2	7.L.4A.1 7.L.4A.2 7.L.4A.3 7.L.4A.4 7.L.4A.5 7.L.4A.6	7.EC.5A.1 7.EC.5A.2 7.EC.5A.3	7.EC.5B.1 7.EC.5B.2 7.EC.5B.3 7.EC.5B.4
***Science and Engineering Practices**		***Science and Engineering Practices**		***Science and Engineering Practices**	***Science and Engineering Practices**	
7.S.1A.2 7.S.1A.3 7.S.1A.4 7.S.1A.5 7.S.1A.6 7.S.1A.8		7.S.1A.2 7.S.1A.4 7.S.1A.7 7.S.1A.8		7.S.1A.2 7.S.1A.5 7.S.1A.6 7.S.1A.7 7.S.1A.8	7.S.1A.1 7.S.1A.2 7.S.1A.4 7.S.1A.7	
***Cross Cutting Concepts**		***Cross Cutting Concepts**		***Cross Cutting Concepts**	***Cross Cutting Concepts**	
1, 2, 3, 4, 5, 6, 7		2, 4, 6		1, 2, 4, 6, 7	1, 2, 3, 4, 5, 6, 7	

**Teachers have the discretion to enhance the selected SEP's and CCC's.*

Unit Title
Life Science: Organization In Living Systems
Standard http://ed.sc.gov/scdoe/assets/file/agency/ccr/Standards-Learning/documents/South_Carolina_Academic_Standards_and_Performance_Indicators_for_Science_2014.pdf
7.L.3 The student will demonstrate an understanding of how the levels of organization within organisms support the essential functions of life.

Conceptual Understanding
7.L.3A. Cells are the most basic unit of any living organism. All organisms are composed of one (unicellular) or many cells (multicellular) and require food and water, a way to dispose of waste, and an environment in which they can live in order to survive. Through the use of technology, scientists have discovered special structures within individual cells that have specific functions that allow the cell to grow, survive, and reproduce. Bacteria are one celled organisms found almost everywhere and can be both helpful and harmful. They can be simply classified by their size, shape and whether or not they can move.
New Academic Vocabulary **Some students may need extra support with the following academic vocabulary in order to understand what they are being asked to understand and do. Teaching these terms in an instructional context is recommended rather than teaching the words in isolation. A great time to deliver explicit instruction for the terms would be during the modeling process. Ultimately, the student should be able to use the academic vocabulary in conversation with peers and teachers. These terms are pulled from the essential knowledge portion of the Support Doc 2.0 (http://ed.sc.gov/instruction/standards-learning/science/support-documents-and-resources/) and further inquiry into the terms can be found there.**

Asexual Reproduction	Bacteria	Cell	Cell Membrane	Cellular Respiration	Cell Theory
Cell Wall	Cellular Waste	Chlorophyll	Chloroplast	Cytoplasm	Diffusion
DNA	Eukaryotic	Genetic Material	Lysosomes	Membrane Bound	Mitochondria
Mitosis	Multicellular	Non-Photosynthetic	Nucleus	Organelles	Osmosis
Photosynthetic	Photosynthesis	Pathogen	Pigment	Prokaryotic	Protist
Sexual Reproduction	Unicellular	Vacuole			

Performance Indicators

Text highlighted below in *orange* and *italicized/underlined* shows connections to SEP's.

7.L.3A.1 *Obtain and communicate information* to support claims that (1) organisms are made of one or more cells, (2) cells are the basic unit of structure and function of organisms, and (3) cells come only from existing cells.

7.L.3A.2 *Analyze and interpret data* from observations to describe different types of cells and classify cells as plant, animal, protist, or bacteria.

7.L.3A.3 *Develop and use models* to explain how the relevant structures within cells (including cytoplasm, cell membrane, cell wall, nucleus, mitochondria, chloroplasts, lysosomes, and vacuoles) function to support the life of plant, animal, and bacterial cells.

7.L.3A.4 *Construct scientific arguments* to support claims that bacteria are both helpful and harmful to other organisms and the environment.

***Science and Engineering Practices**

Support for the guidance, overviews of grade level progressions, and explicit details of each SEP can be found in the Science and Engineering Support Doc (http://ed.sc.gov/scdoe/assets/File/instruction/standards/Science/Support%20Documents/Complete_2014SEPsGuide_SupportDoc2_0.pdf). It is important that teachers realize that the nine science and engineering practices are not intended to be used in isolation. Even if a performance indicator for a given standard only lists one of the practices as a performance expectation, scientists and engineers do not use these practices in isolation, but rather as part of an overall sequence of practice. When educators design the learning for their students, it is important that they see how a given performance expectation fits into the broader context of the other science and engineering practices. This will allow teachers to provide comprehensive, authentic learning experiences through which students will develop and demonstrate a deep understanding of scientific concepts.

7.S.1A.2 Develop, use, and refine models to (1) understand or represent phenomena, processes, and relationships, (2) test devices or solutions, or (3) communicate ideas to others.

7.S.1A.4. Analyze and interpret data from informational texts, observations, measurements, or investigations using a range of methods (such as tabulation, graphing, or statistical analysis) to (1) reveal patterns and construct meaning or (2) support hypotheses, explanations, claims, or designs.

7.S.1A.7 Construct and analyze scientific arguments to support claims, explanations, or designs using evidence from observations, data, or informational texts.

7.S.1A.8 Obtain and evaluate scientific information to (1) answer questions, (2) explain or describe phenomena, (3) develop models, (4) evaluate hypotheses, explanations, claims, or designs or (5) identify and/or fill gaps in knowledge. Communicate using the conventions and expectations of scientific writing or oral presentations by (1) evaluating grade-appropriate primary or secondary scientific literature, or (2) reporting the results of student experimental investigations.

***Cross Cutting Concepts** (http://www.nap.edu/read/13165/chapter/8) The link above provides support from the Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas (2012) The text in blue and *italicized/underlined* below provides a brief explanation of how the specific content ties to the CCC's.
2. Cause and effect: Mechanism and explanation: The National Research Council states "Mechanism and explanation. Events have causes, sometimes simple, sometimes multifaceted. A major activity of science is investigating and explaining causal relationships and the mechanisms by which they are mediated. Such mechanisms can then be tested across given contexts and used to predict and explain events in new contexts" (p 84). *Different types of bacteria can be investigated to determine the causal relationships between bacteria and other organisms in their environment. Bacteria can cause both positive and negative effects on these organisms.* 4. Systems and system models: The National Research Council states "Defining the system under study—specifying its boundaries and making explicit a model of that system-provides tools for understanding and testing ideas that are applicable throughout science and engineering " (p 84). A model can be valuable tool to help students understand systems and be able to communicate their understanding to others. *Models explain how various organelles within a cell function and relate to how they work together to support life functions of the cell. Structural organization within cells function to serve the needs of the cell.* 6. Structure and function: The National Research Council states "The way in which an object or living thing is shaped and its substructure determine many of its properties and functions' (p 84). A model can be valuable tool to help students understand systems and be able to communicate their understanding to others. *Models explain how various structures within a cell have specific shape and function that relate to overall survival.*

**Teachers have the discretion to enhance the selected SEP's and CCC's.*

Prior Knowledge
● 6.L.4 Classification of Organisms Structures, Processes, Behaviors, and Adaptations of Animals
Subsequent Knowledge
● H.B. 2 Cell Systems ● H.B.6 Ecosystems

Possible Instructional Strategies/Lessons
Strategies and lessons that will enable students to master the standard and/or indicator.

- 7.L.3A1
  - Introduction to the Cell Theory: Students will use various resources to support the cell theory. (1) Organisms are made of one or more cells. (2) Cells are the basic unit of structure and function of organisms. (3) Cells come only from existing cells. Students will then communicate the information they find to support the cell theory. This resource can be found at http://www.cpalms.org/Public/PreviewResourceLesson/Preview/40202
  - Cell Theory Timeline Activity: Students will use different resources to research the major developments that led to the cell theory. The students will then create a timeline that displays these discoveries. This resource can be found at http://jenniferhallscience.weebly.com/uploads/2/5/6/7/25673444/cell_theory_timeline_activity.pdf
  - Content Reading Passage: Students will read the passage titled, *Cells That Make Us* and answer the reading set questions. This free site requires teacher registration in order to access the passage and question set. Readworks often offers multiple Lexile levels for same content to address ELL and students with IEPs. This resource can be found at http://www.readworks.org/passages/cells-make-us
- 7L.3A2
  - Cell Structure and Cell Types: Students will make observations and describe different types of cells and classify cells as plant, animal, protist, or bacteria. The activity is geared toward plant, animal, and bacteria cells. Add prepared slides for protists and substitute prepared blood cells. This resource can be found at http://www.sciencegeek.net/Biology/biopdfs/Lab_CellStructureTypes.pdf
  - Cell Structure and Function Projects: Students may select different ways to demonstrate their knowledge about cell parts and function through their descriptions of various types of cells. This resource can be found at http://www.enetlearning.org/wp-content/uploads/2015/04/Cell-Structure-and-Function-Activities.pdf

- 7.L3A3
  - Plant Cells vs. Animal Cells: Students are able to use information from the informational text and diagrams to explain how the relevant structures within cells (including cytoplasm, cell membrane, cell wall, nucleus, mitochondria, chloroplasts, lysosomes, and vacuoles) function to support the life of plant, animal, and bacterial cells. This resource can be found at https://owlcation.com/stem/Plant-Cells-vs-Animal-Cells-With-Diagrams

  - Cell Parts and "The Real World Collage": Students will identify the relevant organelles in an animal cell, state the function of the organelle, and then create a collage model using real world objects that correlate to cell parts and their functions. This resource can be found at http://www.cpalms.org/Public/PreviewResourceLesson/Preview/3894

  - The Cell as a System: Students will review relevant cell structures and will identify how the different organelles operate as a system. Students will compare various organelles to the parts of a factory. This resource can be found at http://sciencenetlinks.com/lessons/cells-2-the-cell-as-a-system/

- 7.L3A4
  - Introduction to Bacteria: Students will conduct research to learn how bacteria can be helpful or harmful and then create a display to showcase their learning. This resource can be found at http://www.discoveryeducation.com/teachers/free-lesson-plans/introduction-to-bacteria.cfm

  - Research Specific Bacterium: Students will create a "wanted poster" for a harmful bacterium or a "help wanted" poster for a helpful bacterium. Students could present their information to the class. You may develop your own requirements for this assignment and the posters could be created using technology. This resource provides a general idea and rubric that can be found at http://mrscienceut.net/MicrobeWantedPoster.pdf

Resources

- Cell Theory: A simple video that introduces students to the history of the Cell Theory. Robert Hooke discovered cells found in a sample of cork. https://www.youtube.com/watch?v=dscY_2QQbKU&feature=youtu.be

- An Adventure into Cells and Their Parts: This is a workbook that teaches the cell parts through comic strips. The resource includes review and practice questions. http://www.indiana.edu/~istdept/R521/student_workbook.pdf

Sample Formative Assessment Tasks/Questions

Additional sample formative assessment tasks/questions for grade bands are located at the end of each of the SEP Support Doc (http://ed.sc.gov/scdoe/assets/File/instruction/standards/Science/Support%20Documents/Complete_2014SEPsGuide_SupportDoc2_0.pdf)

- 7.L3A.1
  - Provide students with various texts and resources. Provide students with a "Claims and Evidence" worksheet in which they have statements regarding (1) organisms are made of one or more cells, (2) cells are the basic structure and function or organisms, and (3) cells come from existing cells. Students will use texts/resources to determine if they agree or disagree with the provided statements. Ask students to use evidence from the text/resources to support their own claim of agree or disagree.

- 7.L.3A.2
  - Provide students with images of various cells. Ask students to classify the cells as plant, animal, protist, or bacteria and to justify their choices using evidence from the images.

- 7.L.3A.3
  - Students will create analogies of different cell parts to items we use in everyday life to demonstrate how the cell parts function (ex. vacuole to Tupperware). Students will then be asked to explain what would happen to the cell as a result of not having the particular cell part.

- 7.L.3A.4
  - Students will support or contradict the statement (s) "Bacteria are harmful to mankind." "Bacteria are helpful to mankind." Students should provide specific examples while justifying their support (contradiction) to the statement (s).

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7.L.3 The student will demonstrate an understanding of how the levels of organization within organisms support the essential functions of life.

Conceptual Understanding					
7.L.3B. Multicellular organisms (including humans) are complex systems with specialized cells that perform specific functions. Organs and organ systems are composed of cells that function to serve the needs of cells which in turn serve the needs of the organism.					
New Academic Vocabulary **Some students may need extra support with the following academic vocabulary in order to understand what they are being asked to understand and do. Teaching these terms in an instructional context is recommended rather than teaching the words in isolation. A great time to deliver explicit instruction for the terms would be during the modeling process. Ultimately, the student should be able to use the academic vocabulary in conversation with peers and teachers. These terms are pulled from the essential knowledge portion of the Support Doc 2.0 (http://ed.sc.gov/instruction/standards-learning/science/support-documents-and-resources/) and further inquiry into the terms can be found there.**					
Anus	Arteries	Bladder	Blood	Blood Vessels	Bones
Brain	Brainstem	Bronchi (Bronchus)	Capillaries	Carbon Dioxide	Cardiac Muscles
Cerebellum	Cerebrum	Circulatory system	Connective Tissue	Diaphragm	Digestive System
Esophagus	Excretory (Urinary) System	Gallbladder	Heart	Involuntary Muscles	Joints
Kidneys	Large Intestine	Ligaments	Liver	Lungs	Mouth
Musculoskeletal System	Nervous System	Organs	Oxygen	Pancreas	Peripheral Nerves
Plasma	Platelets	Primary Organs	Rectum	Red Blood Cells	Respiratory System
Secondary Organs	Skeletal Muscles	Small Intestine	Smooth Muscles	Spinal Cord	Stimuli
Stomach	Systems	Tendons	Trachea	Tuberculosis	Ureters
Urethra	Veins	Voluntary Muscles	White Blood Cells		

Performance Indicators

Text highlighted below in *orange* and *italicized/underlined* shows connections to SEP's.

7.L.3B.1 *Develop and use models* to explain how the structural organizations within multicellular organisms function to serve the needs of the organism.

7.L.3B.2 *Construct explanations* for how systems in the human body (including circulatory, respiratory, digestive, excretory, nervous, and musculoskeletal systems) work together to support the essential life functions of the body.

***Science and Engineering Practices**

Support for the guidance, overviews of grade level progressions, and explicit details of each SEP can be found in the Science and Engineering Support Doc (http://ed.sc.gov/scdoe/assets/File/instruction/standards/Science/Support%20Documents/Complete_2014SEPsGuide_SupportDoc2_0.pdf). It is important that teachers realize that the nine science and engineering practices are not intended to be used in isolation. Even if a performance indicator for a given standard only lists one of the practices as a performance expectation, scientists and engineers do not use these practices in isolation, but rather as part of an overall sequence of practice. When educators design the learning for their students, it is important that they see how a given performance expectation fits into the broader context of the other science and engineering practices. This will allow teachers to provide comprehensive, authentic learning experiences through which students will develop and demonstrate a deep understanding of scientific concepts.

7.S.1A.2 Develop, use, and refine models to (1) understand or represent phenomena, processes, and relationships, (2) test devices or solutions, or (3) communicate ideas to others.

7.S.1A.7 Construct and analyze scientific arguments to support claims, explanations, or designs using evidence from observations, data, or informational texts.

***Cross Cutting Concepts** **(http://www.nap.edu/read/13165/chapter/8)**

The link above provides support from the Framework for K-12 Science Education: Practices, Crosscutting Concepts, and Core Ideas (2012) The text in blue and *italicized/underlined* below provides a brief explanation of how the specific content ties to the CCC's.

4. Systems and system models: The National Research Council states "Defining the system under study—specifying its boundaries and making explicit a model of that system-provides tools for understanding and testing ideas that are applicable throughout science and engineering " (p84). *Models explain how various organs within the body function and relate to how they work together to support essential life functions of the body systems. Structural organization within multicellular organisms function to serve the needs of the organism.*

6. Structure and function: The National Research Council states "The way in which an object or living thing is shaped and its substructure determine many of its properties and functions' (p84). *Models explain how various organs within body function and relate to how they work together to support essential life functions of the body. Structural organization within multicellular organisms function to serve the needs of the organism.*

**Teachers have the discretion to enhance the selected SEP's and CCC's.*

Prior Knowledge
• N/A
Subsequent Knowledge
• H.B.4 (Cell Systems)

Possible Instructional Strategies/Lessons
Strategies and lessons that will enable students to master the standard and/or indicator.

- 7.L.3B.1
  - Organization of the Human Body: Students will participate in a reading activity to summarize the levels or organization within the human body. Students will create a graphic organizer, complete questions, and complete analogies and create their own analogies for the levels of organization. You will have to adapt this since it is geared toward a particular school in the analogies. In order to meet the performance indicator, students would need to be asked to describe how this organization helps the human body meet its needs. This resource can be found at http://www.fallriverschools.org/IC%20and%20HW%20Feb%204%20-%20Organization(1).pdf
  - I'm Bigger Than You: Students will practice identifying the various levels of organization within several organisms. In order to meet the performance indicator, students would need to be asked to describe how this organization helps the organism meet its needs. This resource can be found at http://www.slcschools.org/departments/curriculum/science/Grade-7-to-8/Grade-7/documents/s3-o2-lesson-i-am-bigger-than-you.pdf
  - Levels of Organization: Students can use this informational text to gather information to help revise a model that they have created in their interactive notebook. This resource can be found at http://utahscience.oremjr.alpine.k12.ut.us/sciber00/7th/cells/sciber/levelorg.htm
- 7.L.3B.2
  - Nervous System:
    - Overview of the Nervous System: Students will view a video and be able to distinguish between the parts of the nervous system. This is geared toward older students but could be adapted for your class. In order to meet the requirements of the performance indicator, students will need to describe how the nervous system affects other systems of the body. This resource can be found at http://www.cpalms.org/Public/PreviewResourceLesson/Preview/154633

- Musculoskeletal:
  - Building a Model of a Long Bone: Students will build a model of a long bone. This activity is geared toward high school students but you can choose the parts of the bone that are appropriate to show how the bone is structured to provide lightweight support for the body. This activity also has students build arteries into the bone in order to show the connection between the skeletal system and the circulatory system. This resource can be found at https://static1.squarespace.com/static/53c3c28be4b03a89bfc41f7b/t/544a694be4b0b8313ced7f17/1414162763688/Build+a+Long+Bone.pdf

  - Building a Model of an Arm: Students will build a model to demonstrate how muscles and bones work together for movement. The activity is on page 4 but there are other activities that could be used as well. This resource can be found at http://extension.missouri.edu/hesfn/bodywalk/classroom/muscle.pdf

- Circulatory System:
  - Circulatory System Lesson: Students will identify and investigate the parts of the circulatory system and track how blood moves throughout the body. Students will also relate the circulatory system to other systems of the body. This resource can be found at http://www.cpalms.org/Public/PreviewResourceLesson/Preview/46075

  - Heart Rate Activity: Students will explore how physical activity affects the heart rate and blood flow through the circulatory system. In order to meet the requirements of the performance indicator, students will need to describe how the circulatory system affects other systems of the body. This resource can be found at http://www.cpalms.org/Public/PreviewResourceLesson/Preview/128829

- Respiratory System:
  - Make a Model Lung Lab: Students will create a model lung and then use it to make predictions. In order to meet the requirements of the performance indicator, students will need to describe how the respiratory system affects other systems of the body. This resource can be found at http://bela.usc.edu/pdfdocuments/Lesson%20plans/ResearchandOther/SpeechProduction_Upload/ModelLungWorksheetforActivity.pdf

  - Circulatory and Respiratory Systems Working Together to Maintain Homeostasis: Students will participate in several activities

to explore how the respiratory and circulatory systems work together. This resource can be found at http://www.cpalms.org/Public/PreviewResourceLesson/Preview/75826

- Digestive System:
  - The Digestive System: Where Does Food Go?: Students will compare the length of the different organs in the digestive system to correlate it to the function of the organs in this system. Mathematical analysis is integrated in this lab. In order to meet the requirements of the performance indicator, students will need to describe how the digestive system affects other systems of the body. This resource can be found at
    Student version: http://web.stanford.edu/group/lpchscience/cgi-bin/wordpress/images/Digestive-System-S.pdf
    Teacher version: http://web.stanford.edu/group/lpchscience/cgi-bin/wordpress/images/Digestive-System-T.pdf

- Excretory System:
  - Kidney Filtering: Students will review the role of kidneys as a filtering system for the blood. Students will model the filtering function of the kidney. In order to meet the requirements of the performance indicator, students will need to describe how the excretory system is necessary to the health of the human body. This resource can be found at https://www.teachengineering.org/activities/view/cub_human_lesson08_activity1

  - Waste Not, Want Not: Students will explore the excretory system through several activities such as a reading excerpt, lab, and engineering challenge. In order to meet the requirements of the performance indicator, students will need to describe how the excretory system is necessary to the health of the human body. This resource can be found at http://www.cpalms.org/Public/PreviewResourceLesson/Preview/152559

  - Urinary System: Students will read an article to review the structures and functions of the urinary system. They will then create a model of the urinary system. In order to meet the requirements of the performance indicator, students will need to describe how the excretory system is necessary to the health of the human body. This resource can be found at http://www.s2temsc.org/uploads/1/8/8/7/18873120/urinary_system.pdf

- Systems Working Together:
  - Human Body Systems Project: Students will conduct research on one of the major body systems including, the structure and function of the organs found within this system, and a disease associated with the organ system. Students will make a presentation to communicate information on their system and a visual aid to be used during the presentation. In order to meet the requirements of the performance indicator it is important to relate their systems to other systems in the body. This resource can be found at http://extension.uga.edu/k12/science-behind-our-food/lesson-plans/HumanBodySystemsProject.pdf

  - Human Body Quest: Students will conduct research on the various systems of the human body and create a presentation to share information with other students in the class. In order to meet the requirements of the performance indicator it is important for students to describe the interrelatedness of body systems. This resource can be found at http://sciencespot.net/Media/hlthhumbdyquest.pdf

Resources

- Website: Students can observe blood traveling through the circulatory system and construct explanations for how blood travels. http://www.kscience.co.uk/animations/blood_system.swf

- Website: Students can use this website to obtain information in order to construct explanations about the function of digestive system. http://www.childrensuniversity.manchester.ac.uk/media/services/thechildrensuniversityofmanchester/flash/digestive.swf

- STEM- Designing an Organ Transport Container: Students will learn about organ transport and the requirements to keep organs viable. Students will then design transport containers. This resource can be found at http://www.cpalms.org/Public/PreviewResourceUpload/Preview/150367

Sample Formative Assessment Tasks/Questions

Additional sample formative assessment tasks/questions for grade bands are located at the end of each of the SEP Support Doc (http://ed.sc.gov/scdoe/assets/File/instruction/standards/Science/Support%20Documents/Complete_2014SEPsGuide_SupportDoc2_0.pdf)

- 7.L.3B.1
  - Students will identify the levels of organization within an organism and explain how the structural organization functions to ensure

that the needs of the organism are being met.
    - Students will create a foldable with each level of organization. Students will draw pictures and write a description in their own words to tell how each level plays a role in an organism.
    - Students will create an analogy between the levels of organization within an organism and levels of organization within a system of their choice. Students should explain how each level contributes to the success of the entire system.

- 7.L.3B.2
    - Students will select an organ system that they feel is the most important and provide an explanation for why they feel their system is the most necessary to the survival of the body.
    - Students will compare the body to a civilization and using the analogy to explain why the civilization (body) could not survive without all of the systems in place.
    - Students will create a travel brochure to take travelers through the different organ systems in the body. Each system should have an "exciting sites" to see while in this area.

References

Advancing Science, Serving Society. (n.d.). Cells 2: The Cell as a System. Retrieved September 28, 2016, from http://sciencenetlinks.com/lessons/cells-2-the-cell-as-a-system/

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