Middletown Scope and Sequence

Subject Area: **Science** **Quarter :** **4** **Grade:** **7**

Standards Key Ideas/Major Understandings/Performance Indicators/Competencies	Plan #	Resources (Print, Visual, Technology, Manipulatives)	Assessment (Evidence and Scoring Guides)
MST4.LE.1.2 Explain the functioning of the major human organ systems and their interactions. **(1.2 c-j)**	~25 days	TB: Chapter 14, p. 466-491 Chapter 15, p. 500-529 Chapter 16, p. 532-557 Chapter 17, p. 562-584 Chapter 18, p. 590-615 Chapter 19, p. 624-656 Chapter 20, p. 664-687 Unit 3 AIO: p. 23-58, p. 87-125, p. 147-180, p. 203-240, p. 261-300, p. 325-365, p. 389-421 http://www.biology4kids.com/files/systems_main.html http://www.biology4kids.com/files/systems_skeletal.html http://www.biology4kids.com/files/systems_respiratory.html http://www.biology4kids.com/files/systems_nervous.html http://www.innerbody.com/htm/body.html http://www.medtropolis.com/VBody.asp http://ex.susd.org/mroche/HumanBodySystems.htm http://www.sciencetoybox.com/Human_Body.htm http://kidshealth.org/kid/how_the_body_works.html http://www.medtropolis.com/VBody.asp	TB: Review and Assess Study Guide based on: Chapter 14 p. 496-499 Chapter 15 p. 528-531 Chapter 16 p. 558-561 Chapter 17 p. 586-589 Chapter 18 p. 620-623 Chapter 19 p. 660-663 Chapter 20 p. 692-695 Various Laboratory Investigations/Tests regarding Human Body
1.2c The digestive system consists of organs that are responsible for the mechanical and chemical breakdown of food. The breakdown process results in molecules that can be absorbed and transported to cells.			
1.2d During respiration, cells use oxygen to release the energy stored in food. The respiratory system supplies oxygen and removes carbon dioxide (gas exchange).			
1.2e The excretory system functions in the disposal of dissolved waste molecules, the elimination of liquid and gaseous wastes, and the removal of excess heat energy.			
1.2f The circulatory system moves substances to and from cells, where they are needed or produced, responding to changing demands.			
1.2g Locomotion, necessary to escape danger, obtain food and shelter, and reproduce, is accomplished by the interaction of the skeletal and muscular systems, and coordinated by the nervous system.			
1.2h The nervous and endocrine systems interact to control and coordinate the body's responses to changes in the environment, and to regulate growth, development, and reproduction. Hormones are chemicals produced by the endocrine system; hormones regulate many body functions.			
1.2i The male and female reproductive systems are responsible for producing sex cells necessary for the production of offspring.			
1.2j Disease breaks down the structures or functions of an organism. Some diseases are the result of failures of the system. Other diseases are the result of damage by infection from other organisms (germ theory). Specialized cells protect the body from infectious disease. The chemicals they produce identify and destroy microbes that enter the body.			

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MST4.LE.4.3 Observe and describe developmental patterns in selected plants and animals (e.g., insects, frogs, humans, seed-bearing plants) **(4.3 a-c, f)** **4.3a** Multicellular organisms exhibit complex changes in development, which begin after fertilization. The fertilized egg undergoes numerous cellular divisions that will result in a multicellular organism, with each cell having identical genetic information. **4.3b** In humans, the fertilized egg grows into tissue which develops into organs and organ systems before birth. **4.3c** Various body structures and functions change as an organism goes through its life cycle. **4.3f** As an individual organism ages, various body structures and functions change.		http://sun.menloschool.org/~cweaver/cells/ http://www.biology4kids.com/files/micro_fungi.html http://www.biology4kids.com/files/plants_main.html http://www.biology4kids.com/files/plants_photosynthesis.html http://www.biology4kids.com/files/plants_structure.html http://www.biology4kids.com/files/plants_gymnosperm.html http://www.biology4kids.com/files/plants_angiosperm.html http://www.biology4kids.com/files/invert_main.html http://www.biology4kids.com/files/invert_anemonecoral.html http://www.biology4kids.com/files/invert_arthropod2.html http://www.biology4kids.com/files/invert_insect.html http://www.biology4kids.com/files/vert_main.html http://www.biology4kids.com/files/vert_reptile.html http://www.biology4kids.com/files/vert_mammal.html http://www.factmonster.com/ipka/A0776206.html	
MST4.LE.5.2 Describe the importance of major nutrients, vitamins, and minerals in maintaining health and promoting growth, and explain the need for a constant input of energy for living organisms. **ILS Core Curriculum: Process Skills: Living Environment Skills 8:** Identify pulse points and pulse rates. **ILS Core Curriculum: Process Skills: Living Environment Skills 9:** Identify structure and function relationships in organisms.			
MST4.I.LE.6.2 Students provide evidence that green plants make food and explain the significance of this process to other organisms. **(6.2 a-c)**	~15 days	TB: Chapter 8, p. 248-290	TB: Review and Assess Study Guide based on:

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6.2a Photosynthesis is carried on by green plants and other organisms containing chlorophyll. In this process, the Sun's energy is converted into and stored as chemical energy in the form of a sugar. The quantity of sugar molecules increases in green plants during photosynthesis in the presence of sunlight.		Unit 2 AIO: p. 87-141	Chapter 9, p. 288-291 Various Laboratory Investigations/Tests regarding Plants
6.2b The major source of atmospheric oxygen is photosynthesis. Carbon dioxide is removed from the atmosphere and oxygen is released during photosynthesis.			
6.2c Green plants are the producers of food which is used directly or indirectly by consumers.			
MST4.I.LE.4.3 Observe and describe developmental patterns in selected plants and animals (e.g., insects, frogs, humans, seed-bearing plants).			
4.3e Patterns of development vary among plants. In seed-bearing plants, seeds contain stored food for early development. Their later development into adulthood is characterized by varying patterns of growth from species to species.			