St. Lucie County Public Schools Scope and Sequence 2012-2013

Course: 5th Grade **Course Code: 5020010** **Quarter: 2**

Topic(s) of Study: Living Organisms

Bodies of Knowledge: Life Science

Big Idea(s): 14. Organization and Development of Living Organisms

Essential Questions: How do living organisms carry out various functions?

Optional Teacher Background: *ScienceSaurus*-Life Science Section

RESOURCES **SCIENCE CENTER**

Vocabulary: organism, organ, organ system, brain, skin, bones, muscles, exoskeleton, lungs, heart, stomach, liver, pancreas, kidneys, bladder

Common Inquiry Labs:

- *Science Fusion* Inquiry Flipchart "Making Scents of It" & "Act fast!" p. 33
- *Science Fusion* Inquiry Flipchart "How does the body stay cool?" p. 34
- *Science Fusion* Inquiry Flipchart "Muscle Burnout" & "Circulate!" p. 35
- *Science Fusion* Inquiry Flipchart "The power of chewing" & "Planimal" p. 36

	Technology Links:	
Lab Assistance: Daily Inquiries Logs and Mini Lessons	**Science Links:** www.Thinkcentral.com Fusion Teacher Resources Graphic Organizers	**Online Guides:** Above Level On Level Below Level

NGSSS	CONTENT	TARGETS
SC.5.L.14.1 Identify the organs in the human body and describe their functions, including the skin, brain, heart, lungs, stomach, liver, intestines, pancreas, muscles and skeleton, reproductive organs, kidneys, bladder, and sensory organs. Cognitive Complexity: **Moderate**	What are the major human organs? ▪ Cells to tissues to organs ▪ Skin ▪ Brain ▪ Heart ▪ Lungs ▪ Muscles ▪ Skeleton What are the primary functions of the major human organs? ▪ Skin – protection ▪ Brain – thought processes ▪ Heart – pumps blood ▪ Lungs – intake of oxygen ▪ Muscles – movement ▪ Skeleton – support and protection	▪ Describe the relationships between organs, organ systems, and organisms. ▪ Describe the nervous system structures and their functions. ▪ Explain how the parts of the integumentary system help the system to function. ▪ Describe how plants and animals sense their environment. ▪ Describe some of the outer coverings that protect the bodies of plants and animals. ▪ Demonstrate the effects of evaporative cooling on body temperature. ▪ Identify a control group and explain why it is necessary in an experiment. ▪ Explain the difference between personal interpretation and verified observation. ▪ Describe the structures of the skeletal system and their functions. ▪ Explain how the muscular system functions. ▪ Describe how the human body respires. ▪ Describe how nutrients and oxygen are obtained and transported through the human body.
SC.5.L.14.2 Compare and contrast the function of organs and other physical structures of plants and animals, including humans, for example: some animals have skeletons for support -- some with internal skeletons others with exoskeletons -- while some plants have stems for support. Cognitive Complexity : **Moderate**	What are the similarities between the physical structures of plants and animals? ▪ Skeletons and exoskeletons serve as supports for the organisms body ▪ Stems in a plant transport food and water just as the heart pumps blood through the body What are the differences between the physical structure of plants and animals?	▪ Describe some ways that plants and animals move, support their bodies, exchange gases, and circulate gases and nutrients. ▪ Sequence the path of digestion in humans, and know the function of each organ involved in the process. ▪ Describe the role of the kidneys and bladder in the process of waste removal. ▪ Describe the function of the reproductive system and explain how humans develop. ▪ Compare and contrast ways plants and animal obtain nutrients, get rid of wastes, and reproduce.

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Topic(s) of Study: Adaptation and Evolution

Bodies of Knowledge: Life Science

Big Idea(s): 15. Diversity and Evolution of Living Organisms, **17.** Interdependence

Essential Questions: What are some of the factors within an environment that determine whether a plant or animal will survive and reproduce, die, or move to a new location? What are some of the adaptations animals and plants display that allow them to survive in different environments?

Optional Teacher Background: *ScienceSaurus*- Life Science Section

Vocabulary: environment, ecosystem, pollution, conservation, extinction, habitat, adaptation, instinct, grassland, desert, taiga, polar, wetland, intertidal zone

Common Inquiry Labs:

- *Science Fusion* Inquiry Flipchart "Hunting for Beans" & "Compost in a Bag" p. 37
- *Science Fusion* Inquiry Flipchart "How does drought affect plants?" p. 38
- *Science Fusion* Inquiry Flipchart "Gobbling up your greens" & "Animal Adaptations" p. 39
- *Science Fusion* Inquiry Flipchart "Why do bird's beaks differ?" p. 40
- *Science Fusion* Inquiry Flipchart "Cold as Ice" & "Putting a foot down" p. 41
- *Science Fusion* Inquiry Flipchart "Test the waters" & " That's fishy" p. 42

NGSSS	CONTENT	TARGETS
SC.5.L.15.1 Describe how, when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations. Cognitive Complexity: **High** SC.5.L.17.1 Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycle s variations, animal behaviors and physical characteristics. Cognitive Complexity: **Moderate**	What are the environmental factors that can affect the survival of plants and animals? ▪ Rainfall ▪ Temperature ▪ Fire ▪ Food supply ▪ Available space What are some factors that allow some plants and animals to survive changes within an environment? ▪ Strength ▪ Health ▪ Ability to adapt ▪ Ability to move to new location What various adaptations do plants exhibit that allow them to survive in different environments? ▪ Hairs to increase the surface area for water absorption ▪ Deeper roots to find water supply ▪ Thicker, more succulent leaves to hold the water in ▪ Making food with carbon dioxide, water, and sunlight What various adaptations do animals exhibit which allow them to survive in different environments? ▪ Large eyes to take in increased light for nocturnal animals ▪ Large amounts of blubber for insulation ▪ Oily feathers to dry quicker for flight How do we classify the characteristics of animals? ▪ Inherited ▪ Learned	▪ Describe how the needs of living things are met by their environment. ▪ Describe how an invasive species can change an ecosystem. ▪ Describe how organisms and humans can change an ecosystem. ▪ Explain how variation in a population relates to adaptation to changing ecosystem. ▪ Explain where living things are found. ▪ Define adaptation. ▪ Explain what physical and behavioral adaptations are. ▪ Describe how a life cycle variation could help an organism survive in a particular habitat. ▪ Describe some plant and animal adaptations to life in the following ecosystems: temperate forest, rainforest, grassland, desert, taiga, and polar. ▪ Describe some plants and animals adaptations in: lakes, ponds, rivers, streams, wetlands, intertidal zones, and the ocean. ▪ Discuss some environmental threats to organisms living in the ocean.