LIFE SCIENCE GRADE 5 3-10-09

Enduring Understanding	Standards Addressed	Essential Questions	Anchor Lessons	Assessment
Life Science Plants and animals are classified into 3 domains and 6 kingdoms according to the characteristics that they share.	Characteristics of plants and animals : 1. Classify plants and animals according to the characteristics that they share.	1. What are the 6 kingdoms? 2. How do scientists classify living things? 3. How are kingdoms divided into smaller groups?	Identify and sort organisms by their classification. Create classification puzzles. Lab - Observe growing fungi	In-class check: • Rubric • Checklist • Peer Assessment • Individual Project • Group Project • Research Report • Presentation • Test • Quiz • Discussion • Open-Response Questions (ORQ) • Model
Plants have unique structures that help them to make food, grow and reproduce.	Plants and Structures: 1. Identify the structures in plants that are responsible for food production, support, water transport, reproduction, growth, and protection.	1. What is the structure in plants that allows it to make its own food? 2. How do plants reproduce?	Observe plant and animal cells using a microscope. Label the parts of a plant and an animal cell. Lab - Investigating the Life Cycle of a Flowering Plant	
Genes carry information for how traits are passed from parents to offspring.	Heredity 5: Differentiate between observed characteristics of plants and animals that are fully inherited (e.g., color of flower, shape of leaves, color	1. How do offspring inherit traits? 2. How can two parents with brown eyes have children with blue eyes?	Diagram the formation of a fertilized egg as a result of fertilization. Track eye color through two generations.	

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	of eyes, number of appendages) and characteristics that are affected by the climate or environment (e.g. browning of leaves due to too much sun, language spoken).	3. How do mutations affect traits in organisms?	Lab - Investigate Dominant and Recessive Genes Lab - Surveying Inherited traits Make a frequency table of the number of students with certain inherited physical traits.	
As environments change, variations of traits within a species allow the species to change.	Adaptations of Living Things 6: Give examples of how inherited characteristics may change over time as adaptations to changes in the environment that enable organisms to survive e.g., shape of beak or feet, placement of eyes on head, length of neck, shape of teeth, color.	1. When the environment changes, how do variations in traits help species to survive? 2. What are some examples of environmental changes? 3. How did the species survive?	Research animals that survived the ice age. Explore how the peppered moth adapted to changes in the environment.	
Structural adaptations help living things adapt to their environment.	Adaptations of Living Things 7: Give examples of how changes in the environ-ment (drought, cold) have caused some plants and animals to die or move to new locations (migration).	1. How does the woodpecker's beak help it to survive? 2. How does an animal's coloring help it to survive in its environment? 3. What are the changes in the environment that might cause an organism	Lab - Investigating Eggshells Lab - Exploring Protective Coloring Lab- Investigating Insulation Compare and contrast the wooly mammoth and the gray fox.	

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		to become extinct?	Research how butterflies adapted to changing environmental conditions.	

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Behavioral adaptations are inherited behaviors that help an animal to survive in its environment.	Adaptations of Living Things 8: Describe how organisms meet some of their needs in an environment by using behaviors (patterns of activities in response to information (stimuli) received from the environment. Recognize that some animal behaviors are instinctive (e.g., turtles burying their eggs) and others are learned (e.g. humans, chimpanzees learning how to use tools).	1. What is a behavioral adaptation? 2. How does it differ from a learned behavior?	Investigate owl pellets. Research how spiders and woodpeckers meet their needs in their environment.	
Plants exhibit behavioral adaptations that allow them to meet their basic needs and survive in their environment.	Adaptations of Living Things 9: Recognize plant behaviors such as the way seedling stems grow toward light and their roots grow downward in response to gravity. Recognize that many plants	1. What behavioral adaptations allow plants to survive in deserts, polar regions and changing environ-ments? 2. What would happen if you move a polar bear to the desert?	Explore how mimicry helps animals to survive. Lab - How does an animal's color help it to survive in its environment? Compare and contrast land and water adaptations.	

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	and animals can survive harsh environ-ments because of seasonal behaviors (e.g. in winter, some trees shed leaves, some animals hibernate, and other animals migrate).			
In order to survive, organisms can cause change in their environment and these changes affect their ecosystems.	Adaptations of Living Things 10: Give examples of how organisms can cause changes in their environment to ensure survival. Explain how some of these changes may affect the ecosystem	1. What changes could happen to an ecosystem if a top predator was removed from the food web? 2. How do people change an environment to ensure their survival? 3. What is the impact on a natural ecosystem when we move into it?	Brainstorm and describe how things in your home help you to survive. Select one of the following - beavers building dams, termites burrowing through wood, groundhogs digging burrows - and describe how their adaptations change the environment.	
Most energy for all life on earth starts with the sun. Plants, through photo-synthesis, start the energy moving from producers to consumers.	Energy and Living Things 11: Describe how energy, derived from the sun, is used by plants to produce sugars (photosynthesis) and is transferred within the food chain from producers (plants) to consumers to decomposers.	1. What would happen to life as we know it if there was no sun? 2. Who are scavengers and decomposers and why are they important? 3. How do plants use energy? 4. What is the process that turns the sun's energy into food for us to	Phytoplankton Lab Select an animal and describe its place in the food chain. Make a mobile of a food chain. Write a story about a planet that has no sun.	

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		consume?		