Animals and Plants 6

2017 Science P.L.U.S. Institute

Roper Mountain Science Center
Greenville, South Carolina

Academic Course Description:

Hands-on, inquiry-based activities emphasizing science process skills will provide the vehicles for studying astronomy and space science concepts that correlate to the fourth grade South Carolina Science Academic Standards. Course topics will provide additional content to help develop a secure knowledge base for elementary space science teachers. Participants will observe and measure characteristic properties of the earth and space system components, and investigate their interaction and change. Participants receive a significant quantity of materials for performing the activities in their own classrooms.

Outline of Course Content:

Life Science: Diversity of Life – Classification and Animals

Standard 6.L.4: The student will demonstrate an understanding of how scientists classify organisms and how the structures, processes, behaviors, and adaptations of animals allow them to survive.

Life Science: Diversity of Life – Protists, Fungi and Plants

Standard 6.L.5: The student will demonstrate an understanding of the structures, processes, and responses that allow protists, fungi, and plants to survive and reproduce.

	Topics	Activities or Assignments	Correlation to SC Science Academic Standards
Monday	• Welcome • Community Builder • Note booking • Asking Questions • Document Based Questions	• Review Science P.L.U.S. • Making a pyramid • Note booking in Science • How to get students to ask questions • Document Based Questions	**Standard** 6.L.4: The student will demonstrate an understanding of how scientists classify organisms and how the structures, processes, behaviors, and adaptations of animals allow them to survive. 6.L.5: The student will demonstrate an understanding of the structures, processes, and responses that allow protists, fungi, and plants to survive and reproduce.
Tuesday	• Student Research • Vertebrates and Invertebrates • Structures for defense, movement, and resource obtainment • Environmental Stimuli • Learned and Innate behavior • Endothermic & Ectothermic	• 10 Minute Research • Vertebrate/Invertebrate Book • Animal Adaptations Charts • Designer Animal (a mini lesson) • Weather Maps and Environmental Stimuli • Research and Debate: Learned or Innate • Goldfish Experiment	**Standard** 6.L.4: The student will demonstrate an understanding of how scientists classify organisms and how the structures, processes, behaviors, and adaptations of animals allow them to survive. **Performance Indicator** 6.L.4B.1 Analyze and interpret data related to the diversity of animals to support claims that all animals (vertebrates and invertebrates) share common characteristics. 6.L.4B.2 Obtain and communicate information to explain how the structural adaptations and processes of animals allow for defense, movement, or resource obtainment.
Wednesday	• Kingdom Protist • Kingdom Fungi • Kingdome Plants • Vascular & Nonvascular • Photosynthesis, Respiration and Transpiration • Structural Adaptations of a plant	• Structures of Protist • Locomotion • Yeast Feast • Mushroom- Spore Print • Carrot Root and Celery Stem Experiment • Xylem & Phloem • Moss • Yarn Experiment • Plant in a Jar • Comparison Chart • Word Equation • Roots	**Standard** 6.L.5: The student will demonstrate an understanding of the structures, processes, and responses that allow protists, fungi, and plants to survive and reproduce. **Performance Indicator** 6.L.5A.1 Analyze and interpret data from observations to compare how the structures of protists (including euglena, paramecium, and amoeba) and fungi allow them to obtain energy and explore their environment. 6.L.5A.2 Analyze and interpret data to describe how fungi respond to external stimuli (including temperature, light, touch, water, and gravity). 6.L.5B.1 Construct explanations of how the internal structures of vascular and nonvascular plants transport food and water. 6.L.5B.2 Analyze and interpret data to explain how the processes of photosynthesis, respiration, and transpiration work together to meet the needs of plants. 6.L.5B.3 Develop and use models to compare structural adaptations and processes that flowering plants use for defense, survival and reproduction.

Thursday	• Structural Adaptations of a plant • Seeds • Plant Investigations • Environmental Stimuli • Tropisms • Dormancy	• Flower Dissection • Flower Model Activity • Seed Dissection/Quiz • Planting fast plants as visual aid. • How to set up appropriate plant investigations • Setting up your classroom for Tropisms all year • Seed Experiment: Roots and Stems	**Standard** 6.L.5: The student will demonstrate an understanding of the structures, processes, and responses that allow protists, fungi, and plants to survive and reproduce. **Performance Indicator** 6.L.5B.3 Develop and use models to compare structural adaptations and processes that flowering plants use for defense, survival and reproduction. 6.L.5B.4 Plan and conduct controlled scientific investigations to determine how changes in environmental factors (such as air, water, light, minerals, or space) affect the growth and development of a flowering plant. 6.L.5B.5 Analyze and interpret data to describe how plants respond to external stimuli (including temperature, light, touch, water, and gravity).
Friday	• Dormancy • How the sun affect plants and animals • Closing of class	• South Carolina Bogs: Carnivorous Plants • UV Beads Experiment • Questions, Answers and sharing	**Standard** 6.L.5: The student will demonstrate an understanding of the structures, processes, and responses that allow protists, fungi, and plants to survive and reproduce. **Performance Indicator** 6.L.5B.5 Analyze and interpret data to describe how plants respond to external stimuli (including temperature, light, touch, water, and gravity).

Additional Activities:

- Planetarium Visit
- Ecology Building Visit
- Farm Tour

Daily Activities:

- Note Booking
- Keep Tweak and Toss
- Technology Moment
- Collaboration