

## Organisms: Life Science for Fourth Grade

### 2017 Science P.L.U.S. Institute

Roper Mountain Science Center

Greenville, South Carolina

#### Academic Course Description:

This will be a hands-on, inquiry-based class, with activities emphasizing science process skills. Instructors will provide the vehicles for studying concepts that correlate to the South Carolina Science Academic Standards for fourth grade life science, called Organisms. Course topics are designed to enhance the elementary school teacher's life science knowledge base, and provide appropriate lessons for the 4th grade science classroom. Activities are aimed at developing awareness in students of the basic processes of plant and animal life and how organisms change and interact with their environment. Field studies extend the classroom into the outdoor habitats represented at Roper Mountain Science Center. Participants receive a significant quantity of science materials for performing the activities in their classrooms.

#### Outline of Course Content: Life Science: Characteristics and growth of organisms

**4.L.5: The students will demonstrate an understanding of how the structural characteristics and traits of plants and animals allow them to survive, grow, and reproduce.**

Day of the Week	Topics	Activities	Correlation to SC Science Academic Standards
Monday	<b>Classification of Plants &amp; Animals</b>	Welcome & Overview <input type="checkbox"/> Pretest <input type="checkbox"/> "Save Fred" <input type="checkbox"/> Classification puzzle <input type="checkbox"/> "Animal Guessing Game" with name tag holders and cards <input type="checkbox"/> Animal research project <input type="checkbox"/> Shepard software web game <input type="checkbox"/> Vertebrate / Invertebrate: cover w/ clay investigation <input type="checkbox"/> "Jeopardy: Vertebrate/ invertebrate: website under "Topics" <input type="checkbox"/> Invertebrate Observation: worms <input type="checkbox"/> Owl Pellet dissection: bones or no bones?	<b>4.L.5A.1:</b> Obtain and communicate information about the characteristics of plants and animals to develop models which classify plants as flowering or nonflowering and animals as vertebrates or in vertebrates.
Tuesday	<b>Growth and Development of living things</b>	Mix & Match Traits Game <input type="checkbox"/> "What are flowers for: dissection <input type="checkbox"/> Dissect a soaked Bean	<b>4.L.5A.2:</b> Analyze and interpret data from observations and measurements to compare the stages of development of different seed plants.  <b>4.L.5A.3:</b>

		<input type="checkbox"/> Plant “Cress seed heads” <input type="checkbox"/> Plant “Germination Bags” <input type="checkbox"/> How do flowers drink? Celery dye & dissection <input type="checkbox"/> Life cycle model race <input type="checkbox"/> Baby name game <input type="checkbox"/> Measuring Magic Grow Animals <input type="checkbox"/> Build an ecosystem: River Tank <input type="checkbox"/> Life cycle observation: Frog Eggs Kit for classroom <input type="checkbox"/> Life Cycle Smart Board Intro. <input type="checkbox"/> Meal Worm Scavenger Hunt <input type="checkbox"/> Pinecone investigation	Develop and use models to compare the stages of growth and development in various animals.
Wednesday	<b>Adaptations of Plants and animals</b>	“Plant –A-Sock” Intro. [outside] <input type="checkbox"/> <u>The Dandelion Seed</u> by Joe Anthony : Dandelion Habitat Study <input type="checkbox"/> Plant-A-Sock activity: observe <input type="checkbox"/> Desert plant sponge activity <input type="checkbox"/> Rainforest leaves <input type="checkbox"/> Leaf chromatography <input type="checkbox"/> Plant printing: observation of plant parts and shapes of nature <input type="checkbox"/> Worms are important too! <input type="checkbox"/> Make a “Bean Maze”: to show how vines grow towards the light <input type="checkbox"/> Plant adaptation matching card game <input type="checkbox"/> Animal & Plant Adaptations Venn w/ hula hoops <input type="checkbox"/> How do insects eat investigation <input type="checkbox"/> Bees dance &	<b>4.L.5B.2:</b> Construct explanations for how structural adaptations [such as roots, stems, or leaves; color of flowers; or seed dispersal] allow plants to survive and reproduce.  <b>4.L.5B.3:</b> Construct explanations for how structural adaptations [such as: method for defense, locomotion, obtaining resources, or camouflage] allow animals to survive in the environment.

		Pollinate <input type="checkbox"/> Living Life as a Plant: video lesson <input type="checkbox"/> Habitat walk [or Thurs. if no time]	
Thursday	<b>Adaptations of Animals Cont. &amp; Inherited Traits and Behavior Influenced by the Environment</b>	<input type="checkbox"/> Play "Creepy Animal Adaptation Order" game w/ cards <input type="checkbox"/> Oh Deer game [environmental needs] <input type="checkbox"/> Polar gloves experiment <input type="checkbox"/> "Fashion a Fish" project : Shed Aquarium web game <input type="checkbox"/> Echolocation Activity, <input type="checkbox"/> and Bat cave investigation. <input type="checkbox"/> Birds Beak experiment: Eating <input type="checkbox"/> "Butterfly Camouflage" <input type="checkbox"/> Physical vs Behavioral Adaptation <input type="checkbox"/> Animal Adaptation Charades <input type="checkbox"/> Switch Zoo online game <input type="checkbox"/> Genetic Traits video <input type="checkbox"/> Genetics Lab #1 "I'm the only ME" <input type="checkbox"/> Genetics Lab #2 "My own fingerprints" <input type="checkbox"/> Punnett Squares <input type="checkbox"/> "Chip Off the Old Block" game <input type="checkbox"/> TRAITS BINGO	<b>4.L.5B.3:</b> Construct explanations for how structural adaptations [such as: method for defense, locomotion, obtaining resources, or camouflage] allow animals to survive in the environment.  <b>4.L.5A.4:</b> Construct scientific argument to support claims that some characteristics of organisms are inherited from parents and some are influenced by the environment.
Friday	<b>Environmental Challenge Activity &amp; Idea sharing</b>  Final Assessment	<input type="checkbox"/> How Healthy is Your Ecosystem?" Challenge <input type="checkbox"/> Lesson Sharing <input type="checkbox"/> Final Test	<b>4.L.5B.1:</b> Develop and use models to compare how humans and other animals use their senses and sensory organs to detect and respond to signals from the environment.

Daily Activities:

- Hands-on investigations
- Experience sharing: what have you done in your classroom with this topic?

- Journaling
- Self-evaluation