The Herp Project Curriculum	Next Generation Science Standards	International Society for Technology in Education Student Standards 2014
Practices/skills: Research design Hypothesis building/testing Data collection Measurement skills Taxonomy Data analysis Presentations/videos Citizen Science digital data upload	**HS-LS2-1** **ESTS1-1** **Science and engineering practices:** Using mathematical & computational thinking; Constructing explanations & designing solutions	**1. Creativity and innovation:** a. Apply existing knowledge to generate new ideas and processes in research design. **2. Communication and collaboration**: b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats to share findings from scientific investigations. **3. Research and information fluency**: a. Plan strategies to guide inquiry, using apps in the field for scientific investigations. **4. Critical thinking, problem solving, and decision-making:** a. Identify and define authentic problems and significant questions for investigation using digital tools in the field. **5. Digital citizenship:** a. Advocate and practice safe, legal, and responsible use of information and technology. **6. Technology operations and concepts**: a. Understand and use technology systems; b. Select and use applications effectively and productively; d. Transfer current knowledge to learning of new technologies.
Core Ideas: Adaptation Biodiversity Bio indicators Biomes Biotic parameters Carrying capacity Climate change Ecosystem dynamics Energy flows/Food energy pyramids/Food webs Genetic hybridity Habitat/Niches Human impacts Interdependence Invasive species study Natural selection Population studies Predator/prey Species diversity Weather and climate	**HS-LS1-2** **HS-LS2-1, 2, 6, 8** **HS-LS3-1, 2, 3** **HS-LS4-1, 4, 5, 6*** **HS-ESS2-2, 4*, 5, 6, 7** **HS-ESS3-1, 3*, 4, 5, 6*** *Real, not a simulation or model. **Science and engineering practices:** Engaging in argument from evidence; Obtaining, evaluating, and communicating information **Crosscutting Concepts:** Cause and Effect; Scale, Proportion, and Quantity; Stability and Change	**2. Communication and collaboration**: d. Identify trends and forecast possibilities. **3. Research and information fluency**: b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media.; c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks. d. Use apps in the field to process data and report results. **4. Critical thinking, problem solving, and decision-making**: b. Plan and manage activities to develop a solution or complete a project.; c. Collect and analyze data to identify solutions and /or make informed decisions. **5. Digital citizenship:** b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity. **6. Technology operations and concepts**: b. Select and use applications effectively and productively; c. Troubleshoot systems and application.
Extension Activity: Reduce human impact on the ecosystem.	**HS-LS2-7** **HS-LS4-6** **HS-ETS1-2, 3, 4** **Science and engineering practices:** Developing and using models; Developing possible solutions; Optimizing design solution **Crosscutting concepts:** Influence of science, engineering & technology on natural world	**1. Creativity and innovation**: a. Apply existing knowledge to generate new ideas, products, or processes. b. Use *models and simulations to explore complex systems and issues. **4. Critical thinking, problem solving, and decision-making**: d. Use multiple processes and diverse perspectives to explore alternative solutions. *Real, not a simulation or model