

The Eagles Are Back at Duke Farms! Teacher Notes

Unit Overview	
<p>In this kindergarten NGSS-aligned unit, students use the Duke Farms eagle webcam to observe bald eagles and construct an understanding of what eagles need from their habitat to survive and raise their young. Students supplement their observations from the eagle cam with the book <i>The Eagles Are Back</i>, by Jean Craighead George, to learn about how eagle survival was threatened by humans and see that humans have a role in their continued survival. They compare what they learn from the book to their own observations and share what they learn.</p>	
Next Generation Science Performance Expectations Addressed	
<p>K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water.</p> <p>K-ESS3-1 Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live.</p> <p>Clarification Statement: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.</p> <p>K-ESS2-2 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.</p> <p>Clarification Statement: Examples of plants and animals changing their environment could include a squirrel digs in the ground to hide its food and tree roots can break concrete.</p>	
NGSS Science and Engineering Practices Addressed	NGSS Crosscutting Concepts Addressed
<p>Analyzing and Interpreting Data</p> <p>Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations. Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-LS1-1)</p> <p>Engaging in Argument from Evidence</p> <p>Engaging in argument from evidence in K–2 builds on prior experiences and progresses to comparing ideas and representations about the natural and designed world(s). Construct an argument with evidence to support a claim. (K-ESS2-2)</p>	<p>Patterns</p> <p>Patterns in the natural and human designed world can be observed and used as evidence.</p> <p>Systems and System Models</p> <p>Systems in the natural and designed world have parts that work together.</p>

Enduring Understandings	Essential Questions
<ul style="list-style-type: none"> • All living things have basic needs for survival. • There are many different types of living things. • Animals can only survive in environments where their needs are met. • Observing living things reveals their survival needs. 	<ul style="list-style-type: none"> • Where do animals live and why do they live there? • How do animals obtain and use the energy they need to live and grow? • How can humans help animals?

21st Century Skills Addressed

<p><i>Core Content and Interdisciplinary Themes</i></p> <ul style="list-style-type: none"> • Subject Area Mastery • Environmental Literacy <p><i>Learning and Innovation</i></p> <ul style="list-style-type: none"> • Critical Thinking and Problem Solving • Creativity and Innovation • Communication and Collaboration <p><i>Information and Media Literacy</i></p> <ul style="list-style-type: none"> • Information Literacy • Media Literacy • Information and Communication Technology <p><i>Life and Career</i></p> <ul style="list-style-type: none"> • Flexibility and Adaptability • Initiative and Self-Direction • Social and Cross-Cultural Skills
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Teacher Resources

<ul style="list-style-type: none"> • Duke Farms Eagle Cam • The Eagles Are Back! by Jean Craighead George • Duke Farms' Bald Eagles e-book by Jim Wright. This user-friendly resource contains information about bald eagles in general, and the eagles at Duke Farms in particular. Excellent pictures from all stages of eagle growth and of eagle banding, habitat, and cultural importance. • Duke Farms Eagle Cam Blog, maintained by Jim Wright • Check in with Duke Farms for “Using Eagle Cam in the Classroom” Professional Development workshops each January and on their Facebook Eagle Cam Teacher Page • Teacher Blog on Duke Farms’ eagles by Diane Cook, 2015 winner of Duke Farms Eagle Cam Lesson Plan Contest. • Duke Farms Eagle Cam FAQs • NJ Bald Eagle Field Guide • Bald Eagles in the Meadowlands and Beyond e-book by Jim Wright. Information about bald eagles’ comeback in New Jersey and beyond. • Bald Eagle Fact Sheet • Conserve Wildlife Foundation eagle lesson plan database • Delaware Valley Raptor Center: Live raptor presentations in PA/NJ.
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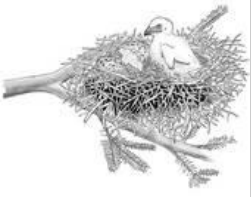





The Eagles Are Back at Duke Farms!

Have you ever seen a bald eagle in the wild? Most of us have not, so Duke Farms placed a webcam on a tree near a bald eagle nest to let us see the daily lives of bald eagles. We can watch as they build a nest, lay eggs, and hatch their eaglets. But years ago, many bald eagles laid eggs that never hatched. Because there were so few eaglets hatching, these beautiful birds were at risk of dying out! It was a terrible time.

In *The Eagles Are Back*, a boy living in this time learns about what was happening to his beloved eagles. He does everything he can to help a baby bald eagle he named Alaska, but he had to do it all alone. More people would have known about Alaska and wanted to help if there had been an eagle cam like the one at Duke Farms. How would the webcam have helped to learn what Alaska needed to survive and grow?

Then, how can we let people know about the Duke Farms webcam so they can help? Share your observations from the Duke Farms eagle webcam. Let's help make people aware of what eagles need!









<p><i>The Eagles Are Back at Duke Farms!</i></p> <p>Unit Rubric</p>	 <p>Novice</p>	 <p>Practitioner</p>	 <p>Expert</p>
 <p>Needs</p>	<p>I named one thing eagles need to survive.</p>	<p>I named more than two things eagles need to survive.</p>	<p>All of the Practitioner, plus I compared eagles' needs to human needs.</p>
 <p>Parents</p>	<p>I identified the parent and baby eagles.</p>	<p>I named two things the parents do for the baby eagles.</p>	<p>All of the Practitioner, plus I named two things my parents do for me.</p>
 <p>Habitat</p>	<p>I named two details about where eagles live.</p>	<p>I named two details about where eagles live and why they live there.</p>	<p>All of the Practitioner, plus I gave one way to help take care of the places where eagles live.</p>
 <p>Observations</p>	<p>I drew a picture of what I saw on the eagle cam.</p>	<p>I drew a picture and wrote one or more sentences about what I saw on the eagle cam.</p>	<p>All of the Practitioner, plus I explained why people should know about the Duke Farms eagle cam.</p>

The Eagles Are Back! *Scaffold for Learning*

<p>How-To Sheets</p> <ul style="list-style-type: none"> • Write a sentence • Make observations • Sequence of events 	<p>Learning Centers</p> <ul style="list-style-type: none"> • Watch eagle blog • Cut and paste eagle characteristics • Match animals to their food • Identify patterns of eagle behavior • Order events 	<p>How-To Videos/Podcasts</p> <ul style="list-style-type: none"> • Bald eagles in NJ • Remember key details in a text • Inform others 	<p>Homework</p> <p>With family:</p> <ul style="list-style-type: none"> • Read other animal books • Review vocabulary words • Watch eagle cam and make observations
<p>Benchmark Lessons</p> <ul style="list-style-type: none"> • What We Need to Live and Grow • Habitat • Bald Eagles • Protect Animals 	<p>Small-Group Mini Lessons</p> <ul style="list-style-type: none"> • Make observations • Compare and contrast • Form an opinion • Key details in a text 	<p>Outdoor Exploration</p> <ul style="list-style-type: none"> • Observe habitat at Duke Farms • Observe animals in nature • Compare human habitats to animal habitats 	<p>Individual Tasks</p> <ul style="list-style-type: none"> • Read and retell stories • Observation checklist • Illustrate observations
<p>Group Tasks</p> <ul style="list-style-type: none"> • Buddy reading • Discuss observations from eagle cam 	<p>Peer Tutoring</p> <ul style="list-style-type: none"> • Observation form • Computer log-in • Buddy reading 	<p>Technology Uses</p> <ul style="list-style-type: none"> • Duke Farms eagle blog • Teacher's blog about the Duke Farms eagles • Bald comeback video 	<p>Interactive Websites</p> <ul style="list-style-type: none"> • Match animals to their habitat • Duke Farms' Bald Eagles e-book

The Eagles Are Back! Content Facilitation Questions

<p>COMPREHENSION <i>Ask questions that ensure students understand content and skills needed to solve the problem.</i></p>	<p>Where do eagles live?</p> <p>What do eagles need to survive?</p> <p>What is an eaglet?</p> <p>What is the difference between a plant and an animal?</p>
<p>APPLICATION <i>Ask questions that ensure the ability of students to apply learning to new situations.</i></p>	<p>Why are places like Duke Farms important?</p> <p>How do webcams help scientists?</p> <p>What happens if an animal doesn't get what it needs to grow?</p>
<p>CONNECTION <i>Ask questions that ensure the ability of students to apply learning to their lives.</i></p>	<p>How can you help to keep animals safe?</p> <p>What are your needs to survive?</p> <p>How do your parents help you?</p> <p>In what ways are you like an eagle? In what ways are you different?</p>
<p>SYNTHESIS <i>Ask questions that encourage students to create new information from existing data.</i></p>	<p>How can humans help animals from becoming extinct?</p> <p>How do animals help humans?</p> <p>How does writing help us to communicate our ideas?</p>
<p>METACOGNITION <i>Ask questions which prompt students to think about their own thinking process</i></p>	<p>What new knowledge did you gain about living things?</p> <p>What was the most challenging part of this unit?</p> <p>How did the eagle cam and other videos help you to learn?</p>

<p>Bald Eagle Webcam Observation Checklist</p>	<p><input type="checkbox"/> fixing nest</p> <p><input type="checkbox"/> sitting in nest</p> <p><input type="checkbox"/> standing on side of nest</p> <p>Adult Eagle Activity</p> <p><input type="checkbox"/> feeding eaglets</p> <p><input type="checkbox"/> cleaning nest</p> <p><input type="checkbox"/> _____</p> <p><input type="checkbox"/> _____</p>
<p>Your Name:</p>	
<p>Date:</p>	
<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p><input type="checkbox"/> morning</p> <p><input type="checkbox"/> afternoon</p> <p><input type="checkbox"/> night</p> </div> </div> <p>Time of Day</p>	
<p>How many eagles do you see? _____ # adults</p> <p>_____ # eggs</p> <p>_____ # eaglets</p> 	<p>Weather (circle one)</p> <div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around; margin-top: 20px;">   </div>