

Expert Pack: Endangered Animals

Submitted by: Melissa Deppas, Susan Waite and Shannon Wright, Southwestern Central School District, Jamestown, NY, Stacy Brand, Jamestown Central School District, Jamestown, NY and Helga Ciminesi, Gowanda Central School District, Gowanda, NY
Grade: 5 Date: February 2016

Topic/Subject
Endangered animals
Texts/Resources
<p>Book</p> <ol style="list-style-type: none">1. <i>Battling Extinction</i> <p>Articles</p> <ol style="list-style-type: none">2. "Kid Defenders: Wild Animals That Need Our Help"3. "What is an Endangered Species?" <p>Videos</p> <ol style="list-style-type: none">4. "Endangered Species Act: 40 Years at the Forefront of Wildlife Conservation"5. "NBC Nightly News: The Biodiversity Project" <p>Other Media</p> <ol style="list-style-type: none">6. "Endangered Species Photo Map" [Interactive map] <p>Each expert pack contains a variety of selections grouped to create as coherent and gradual a learning process for students as possible, generally beginning with lower levels as measured by quantitative and qualitative measures, and moving to more complex levels in the latter selections. This graded approach helps support students' ability to read the next selection and to become 'experts' on the topic they are reading about.</p> <p><i>Refer to annotated bibliography on the following pages for the suggested sequence of readings.</i></p>
Rationale and suggested sequence for reading:
<p>The first resource in this Expert Pack titled "NBC Nightly News: The Biodiversity Project" is a video profiling a project from National Geographic photographer Joel Sartore. This will entice students to learn more about protecting animals with this visually striking and fascinating story about the creation of a "Photo Ark." The second resource in this set is a collection of four articles (one required) from "Kids Discoverer" which provide a basic overview of endangered animals. These article(s) will help lay the ground work for the third piece, which is a slender book titled, <i>Battling Extinction</i>. After reading the book, students will watch a short video on the Endangered Species Act from the United States Fish and Wildlife Service. This will solidify why we should protect endangered animals. The last reading passage is from the Defenders of Wildlife. It provides readers with information on what they can personally do to assist animals at risk. The final resource (which is a map), drives home the locations in the United States that have identified animals that are endangered. Students across the country will realize that animals are at risk in their own backyard. The photographs in the final resource are also featured in the first resource to bring the learning full circle.</p>
The Common Core Shifts for ELA/Literacy:
<ol style="list-style-type: none">1. Regular practice with complex text and its academic language2. Reading, writing and speaking grounded in evidence from text, both literary and informational3. <i>Building knowledge through content-rich nonfiction</i> <p>Though use of these expert packs will enhance student proficiency with most or all of the Common Core Standards, they focus primarily on Shift 3, and the highlighted portions of the standards below.</p>

College and Career Readiness Anchor Standards for Reading Literary and/or Informational Texts(the darkened sections of the standards are the focus of the Expert Pack learning for students):

1. **Read closely to determine what the text says explicitly and to make logical inferences from it;** cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. **Determine central ideas or themes of a text and analyze their development;** summarize the key supporting details and ideas.
10. **Read and comprehend complex literary and informational texts independently and proficiently**

Annotated Bibliography
and suggested sequence for reading

N/A“NBC Nightly News: The Biodiversity Project”

Author: NBC Nightly News

Genre: Informational video

Length: 2:10 minutes

Synopsis: This story profiles the work of Joel Sartore, a National Geographic photographer who is compiling a visual catalog of animals in captivity at zoos. These collected photographs are known as the “Photo Ark” and include endangered animals on the brink of extinction as well as other animals that are not.

Citation: NBC Nightly News. (2012, April30). The Biodiversity Project. [Video file]. Retrieved November 30, 2015, from <https://vimeo.com/40897039>

Cost/Access: \$0.00 <https://vimeo.com/40897039>

Recommended Student Activities: A Picture of Knowledge

900-1040L “What is an Endangered Species?”

Author: Kids Discoverer Online

Genre: Informational articles

Length: (Four) 1-page articles

Synopsis: This resource is a collection of free materials about endangered species and answers some essential questions about this topic. The four articles include information on: Endangered species, biodiversity and evolution, preserving habitats and protecting wildlife and the human impact on these animals. Students should read the “What is an Endangered Species” article. The Expert Pack Glossary and Learning Worth Remembering activities use an example from the “**What is an Endangered Species**” article. Other articles are included for more information if students/teachers would like to read more about this topic (additional articles may be good to use for scaffolding purposes for students to work with the teacher).

Citation: *Kids Discoverer Online*. (2015). Retrieved November 30, 2015, from <https://online.kidsdiscover.com/unit/endangered-species/topic/what-is-an-endangered-species>

Cost/Access: \$0.00

<https://online.kidsdiscover.com/unit/endangered-species/topic/what-is-an-endangered-species> Opening a free online account is necessary prior to accessing these materials. The above link will not work if free account is not created first. Once an account is created, these free articles are accessible using the above link. If the link isn't working, searching: "Endangered Animals" while at kidsdiscover.com sends users to the correct article/s. Students must read one article and then click through to read the remaining three articles. Articles can be printed and distributed to students if online access is problematic.

Recommended Student Activities: Wonderings

800L *Battling Extinction*

Author: Tamra Orr

Genre: Informational text

Length: 32 pages

Synopsis: In this book, readers in real-world situations are tasked with following clues and using the scientific method to find out what happens as animals approach extinction.

Citation: Orr, T. (2014). *Battling extinction*. North Mankato, MN: Cherry Lake Publishing.

Cost/Access: \$14.00 available from book sellers such as Powells.com or Amazon.com

Recommended Student Activities: Quiz Maker

N/A "Endangered Species Act: 40 Years at the Forefront of Wildlife Conservation"

Author: United States Fish and Wildlife Service

Genre: Informational video

Length: 4:37 minutes

Synopsis: This brief video features information on the Endangered Species Act.

Citation: United States Fish and Wildlife Service. (2014, June 27). Endangered Species Act: 40 Years at the Forefront of Wildlife Conservation [Video file]. Retrieved from <http://www.fws.gov/Endangered/esa40/index.html>

Cost/Access: \$0.00 <http://www.fws.gov/Endangered/esa40/index.html>

Recommended Student Activities: Picture of Knowledge

960L "Kid Defenders: Wild Animals that Need our Help"

Author: Defenders of Wildlife

Genre: Informational online booklet

Length: 27 pages. Pages 1-5 are most relevant.

Synopsis: Booklet that asks what kids can learn about and do to help wild animals.

Citation: Lesky, M. (2007). Wild animals that need our help: Things to think about and do. *Kidsplanet.org*. Retrieved November 30, 2015, http://www.kidsplanet.org/coolstuff/kids_activity_book_2007.pdf

Cost/Access: \$0.00 http://www.kidsplanet.org/coolstuff/kids_activity_book_2007.pdf

Recommended Student Activities: Students to complete activities supplied within this reading passage.

N/A “Endangered Species Photo Map”

Author: National Geographic

Genre: Interactive map

Length: 1 page

Synopsis: This resource is an interactive map of endangered species in the United States. Featured photographs on this website are from Joel Sartore, the National Geographic photographer profiled in the first resource in this Expert Pack.

Citation: Covey, R. (Managing Editor). (2015). Endangered species photo map. (Interactive map), Retrieved November 30, 2015, from: <http://ngm.nationalgeographic.com/2009/01/endangered-species/photo-map-interactive>

Cost/Access: \$0.00 <http://ngm.nationalgeographic.com/2009/01/endangered-species/photo-map-interactive>

Recommended Student Activities: Interactive photo map

Additional Resources:

1. <http://www.readworks.org/search/site/endangered%20animals>
Readworks.org offers a collection of articles about endangered animals. Users must create a free account to access these materials.
2. <https://www.nwf.org/What-We-Do/Protect-Wildlife/Endangered-Species.aspx>
This website helps to answer the question - What can we do to protect endangered species? – from the National Wildlife Foundation.

Supports for Struggling Students

By design, the **gradation of complexity** within each Expert Pack is a technique that provides struggling readers the opportunity to read more complex texts. Listed below are other measures of support that can be used when necessary.

- Provide a brief **student-friendly glossary** of some of the academic vocabulary (tier 2) and domain vocabulary (tier 3) essential to understanding the text
- Download the Wordsmyth widget to classroom computers/tablets for students to access student-friendly definitions for unknown words. <http://www.wordsmyth.net/?mode=widget>
- Provide brief **student friendly explanations** of necessary background knowledge
- Include **pictures or videos** related to the topic within and in addition to the set of resources in the pack
- Select a small number of texts to **read aloud** with some discussion about vocabulary work and background knowledge
- Provide **audio recordings** of the texts being read by a strong reader (teacher, parent, etc.)
- **Chunk the text** and provide brief questions for each chunk of text to be answered *before* students go on to the next chunk of text
- Pre-reading activities that focus on the **structure and graphic elements** of the text
- Provide **volunteer helpers** from the school community during independent reading time.

Text Complexity Guide

“What is an Endangered Species?” from ReadWorks.org

1. Quantitative Measure

Go to <http://www.lexile.com/> and enter the title of the text in the Quick Book Search in the upper right of home page. Most texts will have a Lexile measure in this database. You can also copy and paste a selection of text using the Lexile analyzer.

900-1040L

2-3 band	420-820L
4-5 band	740-1010L
6-8 band	925 - 1185L
9 -10 band	1050 – 1335L
11 – CCR	1185 - 1385

2. Qualitative Features

Consider the four dimensions of text complexity below. For each dimension*, note specific examples from the text that make it more or less complex.

<p>This article educates students on what endangered/threatened species are. It explains the conditions under which an animal is categorized in this manner. It discusses biodiversity and the role it plays in the world’s ecosystems.</p> <p style="text-align: right;">Meaning/Purpose</p>	<p>The article is written in a straightforward manner, which provides definitions for specific vocabulary. Text features include a photo collage and other photographs to support further understanding of domain-specific vocabulary.</p> <p>Structure</p>
<p style="text-align: right;">Language</p> <p>Some sentence structure in this article is complex at times. Vocabulary demands are supported with teacher-created glossary created for this Expert Pack. Vocabulary learned from this article will be built upon from other articles in this Expert Pack.</p>	<p>Knowledge Demands</p> <p>This article provides readers a more global awareness of animal species and their place in the world. The subject matter should be familiar to students reading this Expert Pack. Vocabulary may be difficult at times and support may be needed beyond the teacher-created glossary.</p>

3. Reader and Task Considerations

What will challenge students most in this text? What supports can be provided?

- Rereading, chunking and discussion could support students with sentence length and vocabulary demands. Many of the words can be supported with discussion of the context.
- Encouraging students to make connections to other texts in the set could support and deepen understanding of vocabulary in other content areas.
- The student-friendly glossary will provide support for vocabulary.
- Read aloud text to support struggling readers. Alternative methods to written student responses considered as needed.
- This Expert Pack may be most accessible to students in the middle of fifth grade.

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Learning Worth Remembering

Cumulative Activities – The following activities should be completed and updated after reading each resource in the set. The purpose of these activities is to capture knowledge building from one resource to the next, and to provide a holistic snapshot of central ideas of the content covered in the expert pack. *It is recommended that students are **required** to complete one of the Cumulative Activities (Rolling Knowledge Journal or Rolling Vocabulary) for this Expert Pack.*

1. Rolling Knowledge Journal

1. Read each selection in the set, one at a time.
2. After you read *each* resource, stop and think what the big learning was. What did you learn that was new *and important* about the topic from *this* resource? Write, draw, or list what you learned from the text about (topic).
3. Then write, draw, or list how this new resource added to what you learned from the last resource(s).

Sample Student Response

Title	Write, Draw, or List	
	New and important learning about the topic	How does this resource add to what I learned already?
"NBC Nightly News: The Biodiversity Project"	Photographer brings an awareness that all animals have the right to exist.	
"What is an Endangered Species?"	What is the difference between an endangered versus an extinct.	Extinct animals did not get the right to exist. With more awareness and action from humans, animals have more of a chance to survive.
<i>Battling Extinction</i>	All people play an important role in helping to protect animals.	That we all can make a difference by protecting animals. If we help animals survive, we will be able to enjoy them for years to come.
"Endangered Species Act: 40 Years at the Forefront of Wildlife Conservation"	Creation of the Endangered Species Act.	There are legal responsibilities to animals. People have a role in protecting animals and there are legal responsibilities to those animals that people need to be aware of and follow.

“Kid Defenders: Wild Animals that Need our Help”	Plants, animals and humans depend on each other. We all play an important role in defending the planet.	It helps us to understand our roles in defending the natural environment. Everyone has a role to play to help animals exist on our planet.
“Endangered Species Photo Map”	Gives a visual representation of endangered animals throughout the United States.	It helps us to learn about specific animals and their current situation. This resource makes us think about what animals are endangered in our own back yard.

2. Rolling Vocabulary: “Sensational Six”

- Read each resource then determine the 6 words from each text that most exemplify the central idea of the text.
- Next use your 6 words to write about the most important idea of the text. You should have as many sentences as you do words.
- Continue this activity with EACH selection in the Expert Pack.
- After reading all the selections in the Expert Pack, go back and review your words.
- Now select the “Sensational Six” words from ALL the word lists.
- Use the “Sensational Six” words to summarize the most important learning from this Expert Pack.

Title	Six Vocabulary Words & Sentences
“NBC Nightly News: The Biodiversity Project”	<p>perpetual, species, habitat, fund, biodiversity, exist</p> <ol style="list-style-type: none"> 1. Some of the animals in this video were in perpetual motion. 2. A variety of species live at the zoo. 3. An animal lives in a variety of habitats. 4. In order to save the animals, people must fund the cause. 5. The variety of plants and animals in the rainforest is called biodiversity. 6. Unless we work to save the animals, some may no longer exist.
“What is an Endangered Species?”	<p>extinct, endangered, evolve, adapted, vulnerable, ecosystem</p> <ol style="list-style-type: none"> 1. Animals are extinct when not a single one is on the Earth. 2. When we hunt a rhinoceros for its tusk, we are hunting an endangered animal. 3. In order for animals to survive, they evolve over time. 4. The animal adapted to its new habitat. 5. The baby chicks were vulnerable in the open nest. 6. A pond is an interesting ecosystem to study.
<i>Battling Extinction</i>	<p>genes, hypothesis, biologist, pesticides, scientific method, wildlife</p> <ol style="list-style-type: none"> 1. A gene is part of a human-body cell that decides characteristics like eye color. 2. The science experiment had a hypothesis that needed to be proved. 3. The biologist studied frogs in the rainforest.

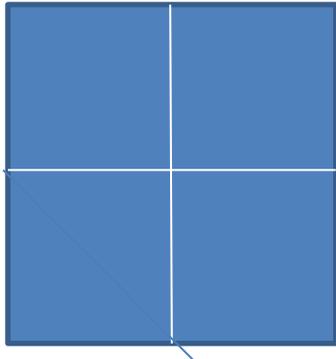
	<ol style="list-style-type: none"> 4. Pesticides were used to kill the insects eating the plants. 5. The scientific method was used to prove the animals were endangered. 6. In the winter we see much less wildlife on our hikes through the woods.
“Endangered Species Act: 40 Years at the Forefront of Wildlife Conservation”	<p>pollute, conservation, unregulated, captivity, domestic, preservation</p> <ol style="list-style-type: none"> 1. If we pollute the environment it will be harmed. 2. Water conservation is important for our ecosystem. 3. Unregulated hunting led to a decrease in the turkey population. 4. Animals in the zoo are kept in captivity. 5. The family dog is a domestic animal found in many homes. 6. The preservation of the black footed ferret led to an increase in its population.
“Kid Defenders: Wild Animals that Need our Help”	<p>defenders, vanishing, threatened, habitat degradation, recovery, reintroduced</p> <ol style="list-style-type: none"> 1. We will be the defenders of endangered species during our lifetime. 2. Endangered animals are vanishing from the Earth. 3. The wolves in Yellowstone National Park were threatened. 4. The coral reefs are facing habitat degradation because of pollution. 5. Forests can experience recovery after a forest fire. 6. The injured wild animal was reintroduced into the wild.
“Endangered Species Photo Map”	<p>status, population, distribution, thriving, natural disaster, migrate</p> <ol style="list-style-type: none"> 1. The status of the animal was listed as endangered. 2. The deer population declines during hunting season. 3. The distribution of the polar bears is throughout Alaska. 4. Plants thrive in the sun. 5. Hurricane Katrina was a devastating natural disaster. 6. Monarch Butterflies migrate to Mexico.
Sensational Six	habitat, endangered, species, conservation, extinct, biodiversity
<p>Summary:</p> <p>Animal habitats can be endangered by the acts of humans, natural disasters or other threats. Many species are currently endangered. Without conservation efforts, many animals may become extinct and drastically affect the biodiversity of our planet.</p>	

Learning Worth Remembering

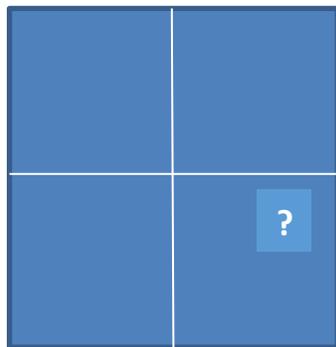
Singular Activities – the following activities can be assigned for each resource in the set. The purpose of these activities is to check for understanding, capture knowledge gained, and provide variety of ways for students to interact with each individual resource. Students may complete some or none of the suggested singular activities for each text. Singular activities should be assigned at the discretion of the teacher.

1. A Picture of Knowledge (Recommended for “NBC Nightly News: The Biodiversity Project” and “Endangered Species Act: 40 Years at the Forefront of Wildlife Conservation”)

- Take a piece of paper and fold it two times: once across and once top to bottom so that it is divided into 4 quadrants.



- Draw these shapes in the corner of each quadrant.



1. Square
2. Triangle
3. Circle
4. Question Mark

- Write!

Square:	What one thing did you read that was interesting to you?
Triangle:	What one thing did you read that taught you something new?
Circle:	What did you read that made you want to learn more?
Question Mark:	What is still confusing to you? What do you still wonder about?

- Find at least one classmate who has read [selection] and talk to each other about what you put in each quadrant.

2. Quiz Maker (Recommended for *Battling Extinction*)

- Make a list of # questions that would make sure another student understood the information.
- Your classmates should be able to find the answer to the question from the resource.
- Include answers for each question.
- Include the where you can find the answer in the resource.

Question	Answer
1.	
2.	
3.	

3. Wonderings (Recommended for “What is an Endangered Species?”)

On the left, track things you don’t understand from the article as you read.

On the right side, list some things you still wonder (or wonder now) about this *topic*.

I'm a little confused about:

This made me wonder:

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Expert Pack Glossary

“NBC Nightly News: The Biodiversity Project”

<i>Word</i>	<i>Student-Friendly Definition</i>
Perpetual	Lasting or continuing forever. <i>The cat was perpetually hungry and always wanted more food to eat.</i>
Species	A group of living things that are the same in many ways. <i>Species are different types of living things - for example animals and birds.</i>
Habitat	A natural environment of an animal or plant. <i>Animals can live in different habitats, some can live in caves, in nests or in a zoo, these are all habitats.</i>
Fund	A supply of money used for a specific purpose. <i>Funds are used to buy things. People collect money and save in a fund.</i>
Biodiversity	The variety of plant and animal life in one area. <i>The rainforest has a vast amount of biodiversity living within it.</i>
Exist	To be real or to live. <i>Animals that live in our neighborhood exist there.</i>

“What is an Endangered Species?”

<i>Word</i>	<i>Student-Friendly Definition</i>
Extinct	No longer living. <i>The Dodo, a form of flightless bird, is now extinct – which means it doesn't live anywhere on planet Earth anymore.</i>
Endanger	To put in a dangerous situation. <i>If you don't wear a seatbelt while riding in a car, you are endangering your safety.</i>
Evolve	A slow process of change. <i>How we access and use technology has evolved over time.</i>
Adapt	To become used to. To change for a particular use. <i>The animals adapted to a drier climate during the drought.</i>
Vulnerable	Open to attack or danger. <i>The baby birds were vulnerable when the mother bird left the nest to gather food for her chicks.</i>
Ecosystem	A community of living things. <i>In an ecosystem, each organism has its own role to play.</i>

Battling Extinction

<i>Word</i>	<i>Student-Friendly Definition</i>
Genes	A part of a human-body cell that decides characteristics like eye color. <i>I have the gene that makes my eye color brown.</i>
Hypothesis	An educated guess. <i>We guessed the outcome of the science experiment before we started it when we wrote our hypothesis.</i>
Biologist	A scientist who studies living things. <i>Many biologists do research to help us understand living things better.</i>
Pesticides	A chemical used to kill insects that harm plants and crops. <i>The farmer put pesticides on his crops so it would kill the bugs damaging the harvest.</i>
Scientific Method	A proven way to doing something in science. <i>We used the Scientific Method for our science fair experiment to show how we went about performing it.</i>
Wildlife	Wild animals that live free of humans. <i>We have a lot of wildlife that lives near the river.</i>

“Endangered Species Act: 40 Years at the Forefront of Wildlife Conservation”

<i>Word</i>	<i>Student-Friendly Definition</i>
Pollute	To harm by mixing in or adding waste materials. <i>The water was polluted when someone put chemicals in it.</i>
Conservation	The protection of natural resources. <i>We need to conserve our natural resources and protect them from outside dangers that sometimes humans create.</i>
Unregulated	No rules to follow. <i>If there were no rules in the classroom, it would be unregulated.</i>
Captivity	The act of being confined. <i>The conservation center had a baby bird in captivity that needed help because it had a broken wing.</i>
Domestic	From the country where you live. <i>The plane ride we were taking from Las Vegas to Buffalo was considered a domestic flight.</i>
Preservation	To keep safe. <i>We think preservation of the historic town square is important for our community.</i>

“Kid Defenders: Wild Animals that Need our Help”

<i>Word</i>	<i>Student-Friendly Definition</i>
Defenders	To protect a person, plan or idea from harm. To guard. <i>He defended the goal against the other team so they wouldn't score a point.</i>
Vanish	To disappear suddenly. <i>The cookies seemed to vanish after the kids came home from school.</i>
Threatened	To harm a person or group if something is not done. <i>The boy threatened to beat up his friend if he didn't give him candy.</i>
Habitat Degradation	The wearing away of the natural area where an animal or plant lives. <i>After the hurricane, the beach had some habitat degradation which disrupted where the plants and animals lived.</i>
Recovery	The act of getting back something that is lost or stolen. To return to a normal condition. <i>We are hoping that there is a recovery period so the animal can be removed from the endangered species list.</i>
Reintroduction	To bring something back to its original state, again. <i>If we bring an animal back to its natural environment, we are reintroducing it.</i>

“Endangered Species Photo Map”

<i>Word</i>	<i>Student-Friendly Definition</i>
Status	Position or rank. <i>The status of the bird was endangered according to the map.</i>
Population	The total number of species in a given area. <i>The population of puffins was large in the North Atlantic.</i>
Distribution	The spread or range of animal species throughout an area. <i>The distribution of mosquitos was large at the swampy campground.</i>
Thriving	To progress well or proceed. <i>Animals that are thriving are doing very well in their environment.</i>
Natural Disaster	A disaster caused by natural rather than human forces. <i>The tornado was a natural disaster that flattened many buildings.</i>
Migrate	To move from one region into another. <i>We saw the geese flying in formation as they migrated from one area to another.</i>