Unit 13

Endangered Species in an Ecosystem

(research/informative)

Part 1: Standards Addressed in This Activity

W.4.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

W.4.2.A Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.

W.4.2.B Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.

W.4.2.C Link ideas within categories of information using words and phrases (e.g., another, for example, also, because).

W.4.2.D Use precise language and domain-specific vocabulary to inform about or explain the topic.

W.4.2.E Provide a concluding statement or section related to the information or explanation presented.

W.4.4 Produce clear and coherent writing in which the development and organization are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1-3 above.)

W.4.5 With guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, and editing. (Editing for conventions should demonstrate command of Language standards 1-3 up to and including grade 4 here.)

W.4.10 Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

Part 2: Description of Activity

The student will conduct research on an endangered species and will write about the role of that species in the ecosystem, including possible effects to the ecosystem were that species to disappear.

Part 3: Teacher and Student Instructions

Task A: Pre-writing

Students will begin by choosing an endangered species to investigate. This species may be a plant or an animal. It may be one of the species described in Unit 13 or a different species (if outside resources are available).

One valuable resource is the US Fish and Wildlife Service's Endangered Species page (http://www.fws.gov/endangered/). This site provides the option of sorting endangered species by state, so students can choose a local species that is endangered. Students will complete a graphic organizer, which they will later use to write an informative essay about the role of that species in the ecosystem.

Directions for the Student

In Unit 13, you learned about some endangered plant and animal species and the role these species play in their ecosystems. Now you will do your own research about an endangered species and tell about how that plant or animal fits into the ecosystem. Later, you'll use this information to write a short essay about what might happen if that species disappeared.

Task B: Writing an Informative Essay

Students will use their completed graphic organizer to write a short essay explaining what might happen to the ecosystem if the species they selected went extinct. Guide students through the other steps of the writing process (revising, editing, publishing) once their first drafts are complete.

Prompt:

Describe an endangered species you learned about. Explain what might happen to the ecosystem if the species disappeared. Use your graphic organizer and the information in your handout. Include facts and details in your own words. Organize your essay in the order that makes the most sense and be sure to include linking words and phrases (e.g., *another*, *for example*, *also*, *because*). Use vocabulary from the unit, such as *endangered* and *extinct*.

Part 4: Handouts/Suggested Responses

Endangered Species Graphic Organizer (Suggested Responses)

Endangered Species Graphic Organizer (Blank)

The Role of Organisms in an Ecosystem Handout

Prompt

Name: Stephen

Endangered Species

Species: Wild blue lupine

Is it a plant or an animal?	It's a perennial flowering plant.
Where does it live?	It lives in the eastern half of the United States, as well as in the lower part of Canada.
What is its role in the ecosystem?	**Producer** **Herbivore** **Omnivore** **Carnivore**
What does it eat/ what eats it?	It produces its own food through photosynthesis. It is the main food source for Karner blue butterfly caterpillars.
Why is it endangered?	A decrease in the number of wildfires means that other plants are growing unchecked, and the wild lupine has to compete for sunlight.
What is being done to save it?	In some states schoolchildren are growing and transplanting lupine seedlings. National parks also artificially disturb some sites by mowing or grazing to make it more habitable for lupines.
Other Facts	You can tell if Karner blue butterfly caterpillars have been eating certain lupine plants because the pattern they leave behind looks like a window pane.

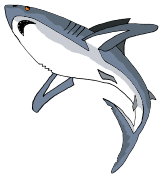
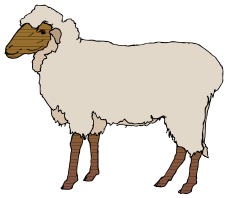
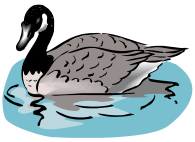
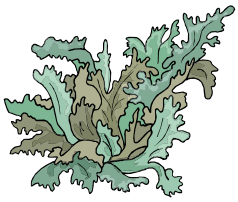
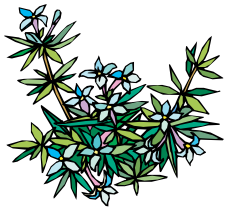
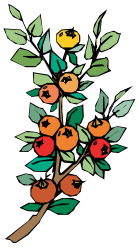
Sources:

http://www.fws.gov/midwest/endangered/insects/kbb/lupine.html
http://www.ohio-nature.com/wild-blue-lupine.html
https://www.minnesotawildflowers.info/flower/wild-lupine

Name: _____

Endangered Species	
Species: _____	
Is it a plant or an animal?	
Where does it live?	
What is its role in the ecosystem?	**Producer Herbivore Omnivore Carnivore**
What does it eat/ what eats it?	
Why is it endangered?	
What is being done to save it?	
Other Facts	
Sources:	

The Role of Organisms in an Ecosystem

Carnivores	   Carnivores only eat other animals. Carnivores can help keep the populations of other animals in check. If there are not enough predators in an ecosystem other populations might become unbalanced.
Omniovores	   Omnivores eat both plants and other animals. Even though they might not eat a certain kind of plant, they could be affected if they eat an animal that eats a threatened plant.
Herbivores	   Herbivores eat only plants. If there isn't enough of their plant food source herbivores may starve. If there are too many herbivores they may hurt the plant population.
Producers	   Producers make their own food through photosynthesis. Animals depend on producers for food and also for shelter.

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Name: _____

Describe an endangered species you learned about. Explain what might happen to the ecosystem if the species disappeared. Use your graphic organizer and the information in your handout. Include facts and details in your own words. Organize your essay in the order that makes the most sense and be sure to include linking words and phrases (e.g., *another*, *for example*, *also*, *because*). Use vocabulary from the unit, such as *endangered* and *extinct*.

Proofreader's Checklist:

Does my writing…

____ state a clear topic?

____ give details (facts) that support the topic?

____ use interesting words and transition words?

____ have a conclusion where I restated my claim?

____ use capital letters at the beginning of each sentence?

____ have correct punctuation and spelling?