



IFAW

International Fund for Animal Welfare

**Animal Action
Education**

FUTURE IN PERIL

**Endangered Animals
in the United States**

Teaching Guide - Grades 3-5

Lessons & Student Worksheets
Aligned with the Common Core

PROGRAM OBJECTIVES

The lessons in *Future in Peril: Endangered Species in the United States* meet Common Core, Next Generation Science Standards and other national standards in social studies, language arts, and science. Through cross-curricular lessons, students will apply social studies and life science concepts, practice critical reading comprehension strategies, conduct research, write informational and opinion pieces, and engage in role-play activities to explore concepts related to wild animals and endangered species.

The lessons in this program also meet IFAW's Animal Action Education cognitive and affective learning outcomes:

To reach the expected cognitive outcomes, students will

- learn key characteristics of specific animals,
- understand physical, social, and behavioral needs of specific animals, and
- distinguish between harmful and helpful human behaviors toward animals.

To reach the expected affective outcomes, students will be provided with opportunities to

- build their curiosity about animals,
- reduce negative perceptions about animals,
- express empathy toward animals,
- demonstrate the willingness to treat animals with respect, and
- demonstrate the willingness to take responsibility for the welfare and conservation of animals.



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IFAW offers a wealth of free teaching resources on animals and conservation themes. Find them online at: ifaw.org/lessons



International Fund for Animal Welfare

PROGRAM OVERVIEW & WARM-UP ACTIVITIES

Learning Outcomes

Through the informational student magazine, lessons and activities in this program, students will learn:

- what a species needs to survive
- that each species plays an important role in an ecosystem
- the definition of “endangered species”
- that many species of plants and animals are in danger of going extinct
- what is causing animals to become endangered
- about laws that protect endangered species in the United States

- how human activities impact other species and their ecosystems
- about changes we could make in our behaviors to help endangered species

Essential Questions

- What causes a species to become endangered or threatened with extinction?
- What do species need to survive?
- Why does it matter if a species disappears?
- How are humans endangering species?
- Can we make a difference?

Ground Rules Activity

Prior to discussions that may involve strong views or feelings, many teachers and students like to develop ground rules within their classrooms to promote positive listening, respect, and sensitivity to different points of view.

1. Ask the class to pair up and answer the following question: “How do people behave toward me that makes me feel confident and comfortable to talk with them about things that really matter to me?”
2. Ask the pairs to move into groups of six and share their ideas. Have them make a list of the behaviors that all six can understand and agree with. These may include:
 - They listen to me.
 - They don’t laugh.
 - They don’t shout what I say to other people.
3. Gather the class and ask each group to report their list, one behavior at a time. Check for understanding and agreement with the whole class.
4. Only write down those behaviors that everybody accepts and understands. Steer the group toward identifying clearly observable behaviors rather than broad concepts.

5. Display the list as a means to encourage individuals to take responsibility for their actions within the group.

Warm Up

To stimulate interest and focus students for the lesson, hold an open class discussion to find out what students already know about endangered species.

Ask questions like the ones below. Accept all reasonable answers in an effort to create a broad-ranged and free-flowing discussion of students’ ideas and feelings.

- What does it mean for a species to be endangered?
- What animal or plant species do you know of that are endangered or extinct?
- Why do you think species are endangered?
- How do you think or feel about this?
- What happens when an animal species becomes extinct?
- Should endangered species be protected? Why or why not?
- Is it as important to protect an insect species as it is a larger animal species such as an elephant or a polar bear?



Lesson 1

Building Knowledge: Reading the Student Magazine

Overview: Students will be introduced to factual information and vocabulary about endangered species. Students will demonstrate reading comprehension strategies to understand content in informational text.

Prepare for Reading

1. Ask students what they know about reading nonfiction, or informational text. How is it different from reading a book or short story.
2. Give each student a copy of the Student Magazine *A Future in Peril: Endangered Animals in the USA*.
3. Open the magazine and point out that the writing is not structured as one continuous text. Instead, there are distinct sections. Ask the class to observe textual features that may help them with their reading and learning. Possible answers include titles, subtitles, pictures, and captions.
4. Point out the bolded words in the text. Tell students that these are vocabulary words and their definitions are at the end of the magazine in a glossary titled, “Words to Know.”

Reading the Magazine

1. Distribute a copy of **Worksheet 1: Reading Guide** to each student.
2. While independently reading the magazine, have students use the worksheet to note key terms, words, questions or ideas they want to ask about or remember from the text.

After Reading

Option 1: Class Discussion

1. After reading, hold an open class discussion to review what they have learned and answer any questions.
 - What facts, statistics, or ideas made the biggest impression on students? Why?

2. Have them discuss these essential questions:
 - What causes a species to become endangered?
 - Why does it matter if a species disappears?
 - How are humans endangering species?
 - What can we do to help?

Option 2: Small Groups Share Key Ideas

The process is designed to build on each other’s thinking, and not to enter into a dialogue.

1. Divide the class into groups of 3-4. Each group should choose a timekeeper (who also participates), who has a watch.
2. Have each student silently identify what s/he considers to be the most significant idea addressed in the article by highlighting that passage in the magazine.
3. When the group is ready, one student volunteers to go first by reading the part of the article that s/he found to be most significant aloud to the group. This person (the presenter) says nothing about why s/he chose that particular passage.
4. The group should pause for a moment to consider the passage. Then, the other three participants each have one minute to respond to the passage — saying what it makes them think about, what questions it raises for them, etc.
5. The first participant then has three minutes to state why s/he chose that part of the article and to respond to — or build on — what s/he heard from his/her colleagues.
6. The same pattern is followed until all four members of the group have had a chance to be the presenter and to have “the last word.”

Reading Guide

Worksheet 1 • Reproducible

Name _____ Date: _____

Directions: As you read information about endangered animal species, jot down the key ideas that you want to remember. List important vocabulary words and write questions that you have.

Key Ideas

Facts/statistics

Endangered Animals

Words/Terms

Questions



Lesson 2

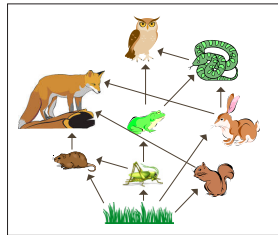
Wolves in the Web of Life

Overview: Students will develop a diagram to describe the food web of wolves, which models the movement of energy between animals and plants in an ecosystem. Students will gain appreciation of how human activities may impact the structure and functioning of ecosystems, food webs and the species that rely on these systems to survive and thrive.

1. Introduce and discuss the concept of ecosystems and food webs.
 - *An ecosystem is an interacting community of plants and animals and the nonliving components of the environment in which they live. A healthy ecosystem is one in which all of the variety of interacting species is able to meet their needs.*
 - *Food webs show how energy moves between living things within an ecosystem as they eat one another. In general, energy flows from producers to consumers to decomposers.*

2. Distribute a copy of **Worksheet 3: Food Webs** to each student. As a class, you will use Diagram One, to build a food web for the school grounds or home garden.

3. Starting with grass, ask the students: What eats grass? Draw arrows to the animals that eat grass. What eats grasshoppers? Draw an arrow to the animals that eat grasshoppers. What eats mice? Draw arrows to the animals that eat mice, and so on until the paper is covered with arrows – creating a web. When you are done, the students should have diagrams that look similar to the diagram above.



4. Tell students they will create the food webs for gray wolves in the United States. Pair students with differing abilities and give each pair a set of index cards.
5. Have students cut out the eight images on the bottom half of Worksheet 3:
 - Grass (producer)
 - Bark (producer)
 - Carrots (producer)
 - Rabbit (secondary consumer)
 - Deer (secondary consumer)

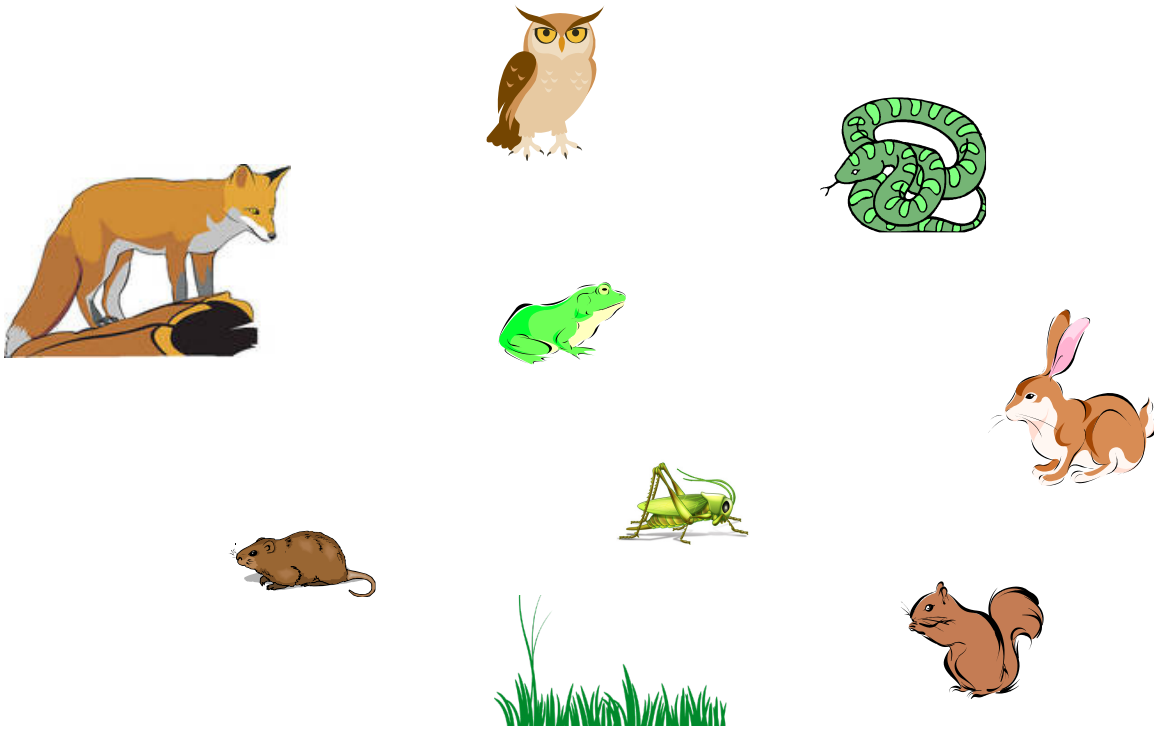
- Moose (secondary consumer)
 - Fox (secondary consumer)
 - Gray Wolf (tertiary consumer).
6. Have each pair position the images on a sheet of paper, with plants roughly at the bottom and the wolf at the top. Tell them to pencil arrows in the direction of any organism that eats another one. Monitor the students' progress.
 7. Once students are satisfied with their food webs, have them tape or glue the images to the sheet of paper. Then ask for a few teams to volunteer to present their food webs to the whole group. Presenters should be praised for any logical connections, but their peers should also be encouraged to suggest revisions.
 8. Ask students to discuss what the arrows show about energy flow (most flow towards the wolf).
 9. Ask students to consider what needs to be protected to support this food web and meet the needs of the species in their diagram. Guide students to recognize that protecting wolves means protecting habitats and, therefore, other animals.

Extension: Working in their same pairs, have students adjust their food webs based on one or more of the following scenarios and write a paragraph explaining the changes they made.

- **Scenario 1: Pollution** - A toxic chemical from a nearby factory has accumulated in a small pond in the forest, eventually killing the frogs that inhabit the pond.
- **Scenario 2: Habitat Fragmentation/Habitat Loss** - A new six lane highway has fragmented the habitat into two smaller land plots.
- **Scenario 3: Invasive Species** - A non-native insect was accidentally introduced into the forest. This insect inhabits white oak trees, eventually leading to their demise.

Food Webs

Name _____ Date: _____





Lesson 3

Write a News Story - Debate the News Story

Overview: Students will learn elements of writing an effective headline news article and practice concise, active voice, informative writing skills. Through critical reading and discussion of a fictitious news article, students will examine different perspectives regarding a region's response to recovery of an endangered species. Students will develop speaking and listening skills through engaging in a debate, compare and contrast the different points of view on the same topic; cite evidence in the text to support analysis; and examine issues related to the recovery of wolves in parts of the United States.

PART ONE

1. Begin by discussing the different types of articles that you might see in a newspaper, magazine or website. For example, a news story tells you objectively what happened during a specific event. Feature articles don't necessarily cover a single news story, and enable the writer to cover a subject in greater length. A letter to the editor offers individuals an opportunity to express their opinion about a particular issue.
1. Ask students: What is the purpose of headlines? What makes a good/bad headline? Discuss the elements of an effective headline. Be sure to stress the need for few well-chosen words in large type, tells the main idea of the story, has a subject and a verb, and entices the reader.
2. Ask students: What information should a news article contain? Be sure to stress: who, what, when, where, why, and how.
3. Discuss what type of writing styles make an effective news article, such as the use of active voice, concise information, and the need to capture a reader's interest at the very beginning.
4. Have students look over some old newspapers or online news articles to get a better understanding of what makes a news article effective.
5. Tell students that they will be writing a news article about the recovery of an endangered species. Review what information must be included in the article (who, what, when, where, why, and how).
 - An excellent teacher/student resource for writing a student news article can be found on the Scholastic website at <http://teacher.scholastic.com/writewit/news/index.htm>
6. Review the **Student Magazine** article, *Back from the Brink*. Have each student choose one of the species featured and write a 500 word article on the recovery of this species.

PART TWO

1. Introduce the fictional news article, **Redford Daily News**, "*The Wolf at Our Door*". Emphasize that this is not a real newspaper article, but it is based on real events.
2. Have students read the article individually or in pairs, depending on ability.
3. After reading review any difficult terms and discuss the major points.
4. Draw two columns on the board and have students define the main points of view ("for" and "against" the return of wolves).
5. Tell the students they will role-play a follow up meeting to discuss the management plan. Divide the class into groups that represent the conservationists, ranchers, wildlife authority and reporters. Assign groups at random.
6. Ask students to do as well as they can presenting their roles, even if they do not fully agree with them.
7. Tell the groups to research the issues online and then list reasons and evidence to support the arguments for the roles they have been assigned.
8. Emphasize that good debaters find the main arguments for their own side as well as for the other side, so they can prepare for the other group's arguments.
9. If time allows, encourage students to practice delivering their arguments. Tell the reporters that they need to know both sides well. You, the teacher, can play the role of the Wildlife Authority.
10. After the different sides have been presented ask the opposing groups to try and work together with you, the Wildlife Authority, to come up with a management plan.

Daily News Redford



The Wolf at Our Door

Redford, California - Wildlife officials have revealed that a male wolf they have been tracking for the past two years has found a mate and fathered a new litter in Redford County. This is the first wolf family known in the area since the last wild wolf was trapped and killed ninety years ago.

Before settlers moved in and cleared land for livestock and building towns, Redford County was home to many gray wolves. Fear for public safety and farm animal predation led to settlers driving wolves away or killing them with guns, traps and poison. Because of this wolves became extinct in Redford County.

Wildlife authorities in the county have been working to bring back wolves to the wild. The return of wolves to Redford has been greeted with mixed

responses from ranchers and other local residents who met with the California Wildlife Authority at a crowded public hearing in Redford Town Hall today.

The debate was tense and at times emotional. Josie Henley, a member of the California Ranchers' Society who runs a ranch in Redwood County, said, "We already have mountain lions, bears and coyotes to deal with. The last thing we need is another vicious killer on the loose around our cattle."

Robert Snow, spokesman for the local Keep Wolves Wild organization, disagreed. "The return of this incredible species can only benefit the region," Snow said.

He said driving away wolves a century ago was a huge mistake. "Just look at the quality of the grazing land – too

many elk and deer have stripped it bare. Wolves will cause these prey animals to be on the move and the vegetation will have a chance to regenerate, including trees along river banks that prevent erosion,

Snow says this has happened in other parts of the country and ranchers have had very few problems with the wolves.

"Wolves are afraid of people and as long as they have enough food in their territories they will rarely prey on cattle or sheep. And on the few occasions that this has happened, ranchers been financially compensated for their loss."

Wolves are classified as endangered in California. It is against the law to kill or disturb them without a permit. Ranchers are concerned they would not be granted a permit to kill a wolf if their livestock was threatened.

"How are wolf numbers going to be controlled," asked Henley. "We need to be assured of our families' and livestock's safety before we roll out the welcome mat for wolves."

Dr Sue Carmichael of the California Wildlife Authority said a management plan is in development. A meeting to discuss the plan is set for next month.

"We hope ranchers will be part of the planning process to ensure the protection of people, livestock and the wolves," Carmichael said.

Meanwhile, the Wildlife Authority will monitor the wolf pack and provide regular updates on their movements.



Lesson 4

Endangered Species Fact Cubes & Project

Overview: Students will choose an endangered animal species in your region or in North America to research. Students will describe the species, its population status, what is causing it to be endangered and how people can help save this species. Students will choose from a variety of options for a culminating project that will creatively present their research using words and images in the class or to the wider school audience.

Part 1: Research & Fact Cubes

1. Introduce the activity by talking with the students about the variety of endangered animals that can be found in your region or in the United States, including fish, amphibians, insects, reptile, mammals and invertebrates.
 - You can use the Student Magazine to review the various endangered species that are featured throughout the pages. Which animals do students recognize?
2. Distribute **Worksheet 3: Endangered Animals Fact Cubes** and explain how students should fill them out. Once the students understand how to complete the template, allow them to choose an endangered animal species from your region or the United States.
 - You can help them search species by state, county and the common or scientific name on the U.S. Fish and Wildlife Service database: <https://www.fws.gov/endangered/>
3. Have students work independently to complete their own fact cube template. When complete, cut out, fold and glue the edges of the template to form a cube.
4. Ask each student to present their fact cubes to the class, explaining why they chose that animal and sharing several things they learned.

Part 2: Culminating Project

- Students will design a presentation to teach others about what they learned about their endangered animal species. The project ideas below provide opportunities for students to share information in the classroom or with a larger audience at the school.

- **Class Book**

Have each student write and illustrate a story for the animal they research with the theme: “*A Day in the Life*” from the perspective of the animal. Collect the stories in a class book.

- **Posters**

Have students use information from their research to create a persuasive poster that informs people about the species, problems it faces and what people can do to help protect the species. Include images/drawings of the animals, their habitat and range. Display posters in your classroom or along the hallways of your school.

- **Puppet Show**

Create a puppet show that teaches about the animals that students researched, including interesting facts about each animal, where they live, why they are endangered and what people can do to help. Present your show to the school.


- **Dioramas**

Have each student make a shoebox diorama of their animal in its habitat (for migratory species, you can choose its winter or summer habitat or breeding area). Display the dioramas around the classroom or school, along with the Animal Research worksheets.

- **Video/Digital Presentation**

Individually, in small groups or as a class, have students create a video or digital presentation with audio, images and information about the issue of endangered species, why it matters if animals become extinct, information about specific endangered species from the students’ research and what people can do to help.

Endangered Animal Cube

	Picture or Illustration	
How can you help protect them??	Description	Color where they live/migrate
	Habitat:	
	Name of Endangered Animal	
	Why endangered?	

Take the Pledge Protect Endangered Animals!



Dear Family,

The _____ grade class at _____ school has been learning about endangered animal species in the United States. Currently more than 1400 animal species are officially considered threatened or endangered with extinction in our country. There are many ways your family can help to protect animals whose habitats have been threatened by human activities. *Read through the list below, then come up with more ideas of your own and take the pledge to help!*

1. Be Aware and Take Care - Animals and their Homes are Everywhere!

- Slow down, go around, step over, do not disturb, tread lightly
- Be tolerant of the wild animals that share your neighborhood

2. Change Course

- Reduce what we throw away; Recycle & Reuse items
- Walk, cycle, and use public transport; Buy foods grown locally
- Don't keep wild animals as pets or buy wildlife products as souvenirs when on vacation.

3. Keep it Clean

- Protect animal habitat by picking up a local beach, park or neighborhood
- Dispose of garbage and hazardous waste properly.

PLEASE COMPLETE THIS FORM AND RETURN TO YOUR CHILD'S TEACHER.

_____ and his/her family pledge to help protect animals and habitat

STUDENT NAME

by taking the following actions: _____

Parent/Guardian Signature: _____



The International Fund for Animal Welfare (IFAW) works around the world to protect animals and the places they call home, focusing on practical solutions that benefit both animals and people.