

# FACES®

## PROTECTING THE EARTH'S ANIMALS

Explore the ways people have used or adapted different inventions to help protect animals from extinction.

## CONVERSATION QUESTION

How do inventors impact our everyday lives?

## TEACHING OBJECTIVES

- Students will learn how technology can be used to study and protect animals.
- Students will learn how limiting the use of technology can help protect animals.
- Students will explain how cultural patterns influence environments.
- Students will describe how culture influences the way people modify their environments.
- Students will explain how cultural patterns and economic decisions influence environments and the daily lives of people.
- Students will use details from a text to write a fictional narrative.
- Students will conduct research using print and digital sources.
- Students will create a timeline.



In addition to supplemental materials focused on core Social Studies skills, this flexible teaching tool offers vocabulary-building activities, questions for discussion, and cross-curricular activities.

## SELECTIONS

- **Eyes in the Skies**  
Expository Nonfiction, ~1050L
- **Zoos: Fighting to Save Endangered Species**  
Expository Nonfiction, ~950L
- **The Migratory Bird Treaty Act: A Safer World for Birds**  
Expository Nonfiction, ~1050L

## Eyes in the Skies

pp. 8–11, Expository Nonfiction

Explore how scientists use different inventions, such as drones, cameras, and computer software, to study and protect animals and their habitats.

Lexile Score: ~1050



## RESOURCES

- Using Inventions to Influence Environments

## OBJECTIVES

- Students will read and analyze a nonfiction article.
- Students will learn how technology can be used to study and protect animals.
- Students will explain how cultural patterns influence environments.
- Students will use details from a text to write a fictional narrative.

## KEY VOCABULARY

- endangered (p. 8)** describes an animal or plant that has become very rare and that could become extinct
- poachers (p. 10)** people who hunt or catch animals or fish illegally
- rangers (p. 11)** people in charge of managing and protecting a park, forest, or area of countryside

## ENGAGE

**Conversation Question:** How do inventors impact our everyday lives?

Ask students to think about what people who study or protect animals need to succeed in their jobs. Ask them to hypothesize how these people might use different types of inventions to perform their jobs.

## INTRODUCE VOCABULARY

Write the sentences below on the board. Have students use the vocabulary words to correctly complete the sentences. Then remind students to look for the vocabulary words as they read the article.

- \_\_\_\_\_ use new technologies to help them protect animals that are \_\_\_\_\_.
- \_\_\_\_\_ pursuing \_\_\_\_\_ animals may be caught by \_\_\_\_\_ using a variety of tools.

## READ & DISCUSS

Have students read the article with a partner. Then use these questions to prompt discussion:

- Why are drones useful for studying animals?
- How can cameras be used to protect animals?
- How does the SMART software help rangers to protect animals from the threat of poachers?

## SKILL FOCUS: Explain Influence

**INSTRUCT:** Distribute one copy of the *Using Inventions to Influence Environments* organizer to each student. Explain that some cultural patterns, such as the continued development and use of new technologies, change the way people influence the environment, including animals and their habitats.

**ASSESS:** Have students reread the article and record details about different technologies people use to gather data on animals and to protect animals and their habitats.

## EXTEND

**English Language Arts** Remind students that the article mentions that one reason some animals are at risk of extinction is because poachers hunt or catch them illegally. Tell students to imagine themselves as a ranger working to prevent poachers from succeeding in their task. Ask students to use details from the text to write a short story describing their experience.

## Using Inventions to Influence Environments

As you read the article, record three ways that people who study and protect animals and their habitats have used technology to accomplish their goals.

Animal Being Studied or Protected	Invention Being Used to Study or Protect the Animal	How Invention Helps People Study or Protect the Animal

On the lines below, write a one-sentence summary of how inventions can be used to benefit animals and their environments.

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## Zoos: Fighting to Save Endangered Species

pp. 12–15, Expository Nonfiction

Learn how conservation biologists work to prevent animals from becoming extinct.



### OBJECTIVES

- Students will read and analyze a nonfiction article.
- Students will learn how limiting the use of technology can help protect animals.
- Students will explain how culture influences the way people modify their environments.
- Students will conduct research using print and digital sources.

### KEY VOCABULARY

- **conservation biologist** (p. 13) a scientist who works to protect and maintain natural resources, such as air, water, and wildlife
- **palm oil** (p. 14) oil that comes from the fruit of some palm trees
- **deforestation** (p. 14) the result of clearing all the trees in an area

### ENGAGE

**Conversation Question:** How do inventors impact our everyday lives?

Explain to students that inventions—such as paper made from trees—sometimes have unintended consequences—such as the clearing of trees that provide habitats for different animals. Ask students to hypothesize the unintended consequences of various inventions on different animals' habitats and evaluate options to prevent or limit such consequences.

### INTRODUCE VOCABULARY

Review the vocabulary words and definitions. Then ask students to use the vocabulary words to help them make predictions about the topic of the article. If necessary, help students guess the topic by revealing the title of the article. Remind students to look for the vocabulary words as they read the article.

### READ & DISCUSS

Have students read the article with a partner. Then use these prompts for discussion:

1. How are animals' habitats threatened by human behavior?
2. Why have conservation biologists started captive breeding programs?
3. How can people help to protect animals' habitats through their everyday actions?

### SKILL FOCUS: Explain Modification

**INSTRUCT:** Explain to students that people modify or change environments for various reasons. Continue by explaining that as a result of these human modifications, the habitats where certain animals thrive may be destroyed and those animals may suffer.

**ASSESS:** Have students reread the article to identify how the Amur tigers' habitat was modified in the past for economic reasons and how it has been modified again more recently in order to protect it. Then ask students to explain how the more recent modification may help prevent the extinction of Amur tigers.

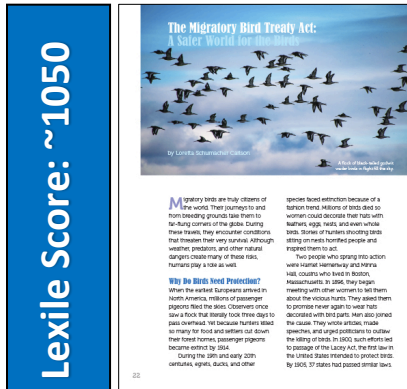
### EXTEND

**Science** Remind students that the article discusses how conservation biologists have worked to protect animals and to restore animal habitats. Have students research one endangered animal not mentioned in the article to determine what steps people are taking to prevent its extinction and/or to restore its habitat. Then have students give an oral presentation that summarizes what they have learned.

## The Migratory Bird Treaty Act: A Safer World for Birds

pp. 22–25, Expository Nonfiction

Discover how people and governments have taken actions to protect many of the world's migratory and nonmigratory birds from the harmful effects of human activities.



### OBJECTIVES

- Students will read and analyze a nonfiction article.
- Students will learn how limiting the use of technology can help protect animals.
- Students will explain how cultural patterns and economic decisions influence environments and the daily lives of people.
- Students will create a timeline.

### KEY VOCABULARY

- **treaties (p. 23)** formal agreements made between countries
- **perils (p. 23)** serious and immediate dangers
- **pesticides (p. 23)** chemicals used to kill insects and other organisms that damage plants or crops

### ENGAGE

**Conversation Question:** How do inventors impact our everyday lives?

Explain to students that pesticides are a technology that benefits humans by making it easier to grow food, but pesticides are often harmful to animals and their habitats. Also explain that other human activities directly threaten animals. Brainstorm modern human activities and technologies that may present threats to animals and their habitats. Discuss ways these threats could be avoided.

### INTRODUCE VOCABULARY

Review the vocabulary words and their definitions. Then have students work in small groups to create a single sentence that uses all three words correctly. Invite groups to share their sentences. Finally, tell students to look for the vocabulary words as they read the story.

### READ & DISCUSS

Have students read the article with a partner. Then use these prompts for discussion:

1. How are homes in Iceland heated?
2. What methods does Iceland use to produce electricity?
3. Why do Icelanders want to access steam trapped under the earth?

### SKILL FOCUS: Explain Influence

**INSTRUCT:** Inform students that cultures develop patterns of behavior and make economic decisions that can have detrimental effects on animals and their habitats. Explain that these detrimental effects sometimes spur people and governments to take actions to limit or end these effects.

**ASSESS:** Have students work in pairs to reread the article and identify three examples of people and governments taking steps to protect animals and their habitats. Tell partners to summarize the negative and positive impacts that humans have had on birds and their habitats.

### EXTEND

**Social Studies** Remind students that the article describes how people and governments have taken steps to help protect the habitats of endangered birds and to ban both the use of certain substances and the pursuit of certain activities that endanger birds. Explain that students need to use details in the text to create an annotated timeline—with at least three entries—detailing these steps. Explain that to annotate a timeline means that in addition to the date and title of an event or action, the timeline also includes a short description of each event or action and its importance.