

Animals Back from the Brink

TEACHER'S GUIDE

As a part of science and social studies curriculum expectations across the United States and Canada, students explore the connections between living and nonliving things within an ecosystem. They focus on how species rely on each other for survival, and how national and international communities collaborate to achieve common goals of ecosystem conservation and protection. *Animals Back from the Brink* is a fascinating series that allows readers to explore the connections within an ecosystem, and collaborative conservation efforts, through the lens of a species conservation success story. Readers learn about different ecosystems and their delicate balances, examining what happens to the balance when one species is threatened. Readers also examine the collaborative efforts to bring the species population back to health and ensure it is protected in the future.

The *Animals Back from the Brink* Teacher's Guide includes lessons that help students reach an understanding of these expectations and learning goals. Students will examine the interconnections within an ecosystem and explore the consequences that occur when a species is removed from that ecosystem. They will make connections between the text and themselves, as they examine the impact they have on threatened species and their ecosystems, and explore how international collaboration makes a difference in our world.

The lessons in this Teacher's Guide promote exploration and inquiry. They are aligned for grades 4 to 6 and can be taught as stand-alone lessons. Key concepts such as the function and features of ecosystems may need to be pre-taught or reviewed. Reproducible worksheets and assessment tools, as referenced in the lesson plans, can be found at the end of each lesson. The titles in *Animals Back from the Brink* include:

Bringing Back the American Alligator

Bringing Back the Giant Panda

Bringing Back the Gray Wolf

Bringing Back the Grizzly Bear

Bringing Back the Humpback Whale

Bringing Back the Whooping Crane

PACING CHART AND VOCABULARY

Lesson Plan Title	Pacing	Vocabulary
Maintaining the Balance	2-3 class periods*	consumers decomposers ecosystem energy extinct food chain/food web living things nonliving things producers
Depicting the Human Impact	3-4 class periods*	agriculture art techniques, including color, shadow, line, space, signs and symbols bansho climate change deforestation ecosystems human impact industry pollution urban development/sprawl
Exploring Collaborative Action and Creating My Conservation Action Plan		action plan collaboration conservation human impact intervention IUCN Red List strategies

* 1 class period = 40-60 minutes

ACCOMMODATION STRATEGIES

Accommodations provide equal access to learning and equal opportunity to demonstrate what is learned. Accommodations allow a student access to the subject or course without any changes to the knowledge and skills the student is expected to demonstrate.

Educators are encouraged to adapt the instructional approach, activities, and assessments included in this guide to best meet the diverse interests, needs, and abilities of their students. Possible accommodations may include:

Instructional Strategies

- Break tasks into parts with accompanying time lines
- Provide extra time for processing of oral information
- Pair oral instructions with visual ones (writing or symbols)
- Pre-teach new vocabulary and regularly review previously taught vocabulary
- Provide model of completed work
- Frequently check with the student to get him/her started
- Provide oral and visual instructions and examples
- Provide a checklist of tasks for the student

Environmental Strategies

- Proximity to teacher
- Strategic seating
- Flexible or mixed-ability grouping
- Provide an alternative setting for learning that is free from visual and auditory distractions

Assessment Strategies

- Build in extra time to allow student to process questions asked and answers given
- Provide written instructions and rubrics for assignments
- Offer a choice of assessment activities so that the student can choose one suited to their strengths
- Space out or extend assignments to prevent student feeling overwhelmed
- Reduce the number of tasks used to assess skill or concept
- Allow students to use assistive devices or technology

LESSON 1

Maintaining the Balance

Curriculum Correlations

Ontario Science and Technology

Grade 4 Understanding Life Systems: Habitats and Communities

2.2, 2.3, 2.5, 3.2, 3.3, 3.4, 3.5, 3.6

Grade 6 Understanding Life Systems: Biodiversity

2.2, 3.5

Next Generation Science Standards

5-LS2-1

MS-LS2-1

Materials

- Chart paper and markers
- Blank white paper and colored pencils
- Whiteboard or blackboard
- Devices with Internet access, for research
- Books in *Animals Back from the Brink* series
- Food chain cards
- *Maintaining the Balance Checklist*

Setting the Stage

*Lessons on ecosystems and food chains should precede this lesson.

Hold discussion about living things and ecosystems, to engage prior knowledge. Ask students:

- What do living things need to survive?
 - ▶ Living things need food, water, and shelter to survive.
- How do living things get what they need to survive in their ecosystem?

Take students through an example to illustrate how a living thing depends on its ecosystem to survive. Examine an animal in the local ecosystem, such as a snake, squirrel, bird, etc. In small groups, have students brainstorm how that animal survives in the local ecosystem. Discuss the foods that the animal eats, its water source, and the place it lives.

- **Take-away concept: Animals depend on both living and nonliving things in their ecosystem to meet their survival needs.**

Review that the plants and animals in an ecosystem fit into a food chain or food web.

This food chain/web keeps the ecosystem balanced and allows species to meet their needs.

There are three types of living things in a food chain/web. Review each type, and ask students to provide some examples that they can think of:

- **Producers are organisms that make their own energy.**
- **Consumers are organisms that get energy by eating other organisms.**
 - ▶ These can be carnivores (meat eaters), herbivores (plant eaters), and omnivores (eat both plants and animals).
- **Decomposers are organisms that get energy from breaking down dead organisms.**

Remind students that the Sun is an essential part of all food chains because it gives plants (producers) the energy they need to grow.

Create a class food chain/web to illustrate the concept. The following is a savannah food chain/web, but any food chain could be used for this example.

- Sun → Grass and Trees → Ants, Mice, Gazelles → Aardvark, Mongoose → Lion, Hyena → Earthworms

Ask students to identify which living things are producers, consumers, or decomposers.

Prompt them to think about how the animals in a food chain rely on each other.

- **Take-away concept: Energy is passed from one living thing to another in a food chain.**

Objectives

Students will:

- Understand that all of the living and nonliving things in an ecosystem depend on each other, and that a delicate balance is maintained within an ecosystem.
- Identify producers, consumers, and decomposers and explain how they fit into a food chain.
- Describe how a threatened species plays an important role in their ecosystem.
- Research a species that depends on a threatened species and write a short paragraph that describes how that species is threatened or affected when the threatened species in the ecosystem.

Activity 1

Print Food Chain cards and cut them out individually. The food chain cards should be the same as the class food chain previously created. Give each student in the class one card and instruct them to, without looking at it, hold it or tape it to their foreheads.

Tape each of the six cards to different places around the classroom. Explain to students that they must ask questions to figure out which species in the ecosystem they are. When they think they know, they will stand under the corresponding card on the wall.

When every student has a card on their forehead, play the "Food Chain Game." Instruct students to move around the classroom and meet their classmates as they walk. Each time they meet a classmate, they can ask one "yes or no" question that will help them identify which part of the food chain they are. Students have been introduced to the food chain before and should have some familiarity. Questions might include:

- Am I a producer?
- Am I a consumer?
- Am I a decomposer?
- Am I at the top of the food chain?
- Am I a consumer at the bottom of the food chain?
- Do I eat plants?
- Do I eat other consumers?
- Am I at the beginning of a food chain?

When students think they know which part of the food chain they are, they should go stand under the corresponding card taped to the wall. Teacher can quietly instruct students who have made an incorrect choice to keep asking questions.

When all of the students are standing under the correct card, they will be in groups of approximately 4 to 5. Then, as a class, create a big food chain/web. In their groups, students should stand in the correct order. Teacher can either act as the Sun or draw a Sun on the whiteboard so that it is part of the food chain.

When class food chain is successful, teacher leads students in a casual discussion about the different parts of the food chain and how they rely on each other.

To prompt for the next part of the lesson, teacher should instruct groups of students (one at a time) to leave the food chain. Teacher should ask students "What happens to the food chain when this species is missing?"

Have students share answers. Explain that this is what happens to food chains in ecosystems when one species becomes extinct.

Activity 2

In groups, students should choose one threatened species from the *Animals Back from the Brink* series.

They will use their devices to research and create a food chain that includes the threatened species. They should then draw pictures of each species in the food chain and display the food chain, in the correct order, on chart paper.

Potential food chains/webs for each of the animals in the ecosystem, if students are unable to complete on their own and need assistance, are as follows and can be used to help teacher guide and prompt students.

- Giant panda
 - ▶ Sun→Bamboo, Grass→Great Panda, Red Panda, Bamboo rat→Snake, Jackal, Snow Leopard→Mushrooms, Earthworms
- Gray wolf
 - ▶ Sun→Grass/Grains/Plants→Elk/Vole/Deer→Coyote→Gray wolf
- American alligator
 - ▶ Sun→Butterfly orchid/Bladderwort/Plants→Mosquito→Grass carp/Turtle/Frog→Raccoon/Great blue heron→American alligator
- Humpback whale
 - ▶ Sun→Phytoplankton→Krill→Humpback whale/Baleen whales/fish/seals→Birds/Leopard Seal
- Grizzly bear
 - ▶ Sun→Grass/Flowers/Berries→Deer/Marmot→Red-tailed hawk/Grizzly bear
- Whooping crane
 - ▶ Sun→Weeds/Water lilies/Phytoplankton→Grasshopper/Beaver→Fish/Turtle/Bull frog→Whooping crane→Hawk/Black bear/Gray wolf

Each student chooses one plant or animal in the food chain (Not the Sun, not the threatened species) and writes a three- or four-sentence paragraph describing what happens to that plant or animal if the threatened species were to become extinct. They can use their books and their devices to come up with their answer.

They should type up a final version of their paragraphs and glue them to the food chain, beside that respective species.

Finished versions should show a correct food chain with pictures of each of the plants or animals and a small paragraph beside the picture that explains how it relies on the threatened species.

Extensions

- ▶ Students can write a journal entry in the role of their chosen species, describing life before the threatened species became extinct and after the threatened species became extinct
- ▶ Students can examine a food chain in their local ecosystem and predict the effects of one species becoming threatened or extinct.

Wrap-Up

Have each group present their food chain to the class. Each student reads their short paragraph aloud.

Give students the opportunity to ask questions of their peers.

Hold a class discussion about how all living things in an ecosystem rely on each other. Discuss how in a food chain, the species depend on each other because energy moves from one living thing to another. Ensure that students understand that when one species is threatened, the whole ecosystem is threatened too.

Assessment

Use the *Maintaining the Balance Checklist* to assess the paragraphs that students wrote. Check for understanding about how species rely on each other in an ecosystem and how a food chain needs every part to work correctly. Use anecdotal notes to assess whether students show understanding of food chains and how energy moves between living things.

Food Chain Cards

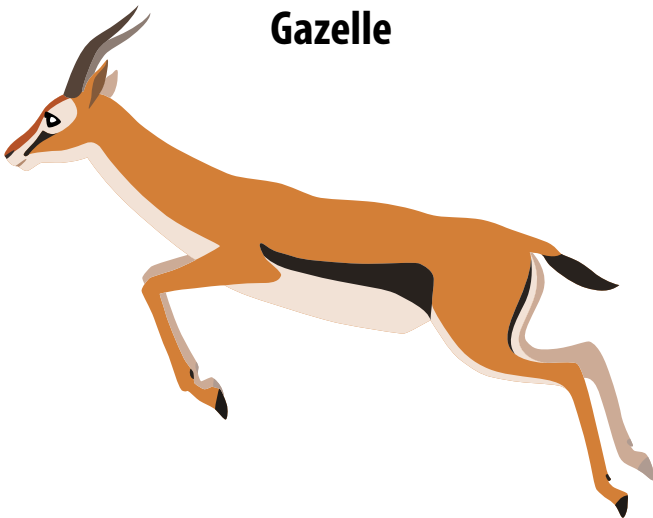
Baobab Tree



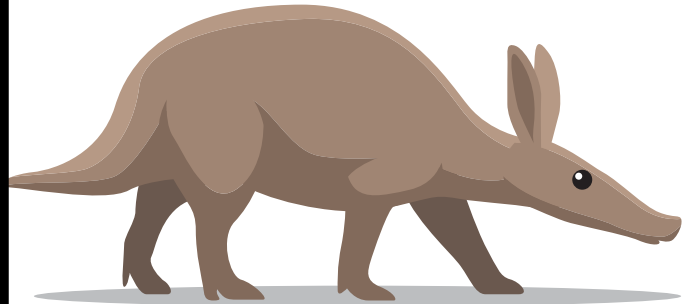
Harvester Ant



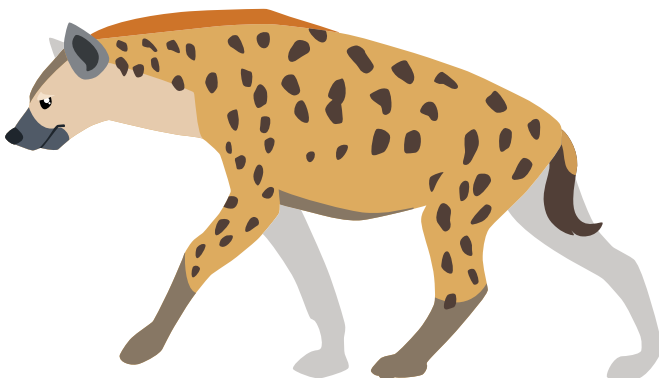
Gazelle



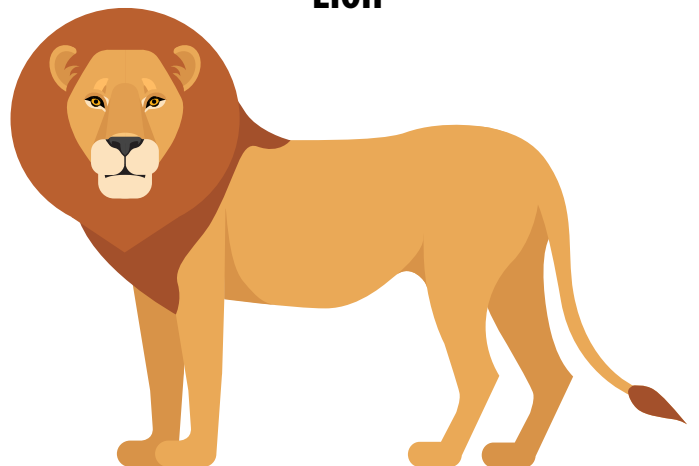
Aardvark



Hyena



Lion



Maintaining the Balance Checklist

Student's Name: _____

Date: _____

Criteria	Met	Not Met
Student participated in group activity and discussion about food chains, showing understanding of how energy moves between organisms.	Notes:	Notes:
In class activity and discussion students classify organisms as producers, consumers, or decomposers.	Notes:	Notes:
In written component, student shows insight on how living things in an ecosystem depend on each other.	Notes:	Notes:
In written component student clearly explains, with accuracy, how the species would be affected if the threatened species became extinct.	Notes:	Notes:
Student uses appropriate scientific vocabulary in their written component.	Notes:	Notes:

LESSON 2

Depicting the Human Impact

Curriculum Correlations

Ontario Science and Technology Standards

Grade 4 Understanding Life Systems: Habitats and Communities

1.2

Ontario Arts Standards

Grades 4–6, Overall Expectation D1

D1.3

Next Generation Science Standards

5-ESS3-1.

United States National Core Arts Standards

Creating: Anchor Standard 2

Materials

- Art materials
 - ▶ Colored pencils, paints, pastels
 - ▶ Art paper, canvas, other mediums

* Teacher can choose to allow students to choose the medium they would like to create their art on.
- Books in *Animals Back from the Brink* series
- *Human Impact Worksheet*
- *Depicting the Human Impact Rubric*
- Projection tool, for video
- Devices with Internet access, for research

Objectives

Students will be able to:

- Identify and explain how humans impact ecosystems and the habitats of threatened species—in both negative and positive ways.
- Use visual art techniques to create a visual comparison between a healthy ecosystem and an ecosystem that has been negatively impacted by humans and resulted in the endangerment of a species.

Setting the Stage

Engage students in a discussion about ecosystems and how plants and animals get what they need to survive in that ecosystem. Can use an example from one of the *Animals Back from the Brink* titles, such as the giant panda. Prompt students with questions such as:

- In which ecosystem does the giant panda live?
- What does the giant panda need to survive?
- How does the bamboo forest ecosystem help the giant panda to survive?

Ask students:

- What happens to the species that live there when an ecosystem is damaged?

Prompt students to talk about how species could not meet their needs if the ecosystem in which they live is being damaged or threatened.

Segue into a discussion about the ways that humans damage ecosystems. Ask students:

- How do humans threaten ecosystems?

Invite students to “Think, Pair, Share” to come up with an answer to the question.

Have students to come up to the whiteboard and write down their ideas, to create a class web. When students are complete, go over the responses that they came up with. Possible responses could include:

- Deforestation for agriculture, industry, or urban development
- Building roads through an ecosystem
- Agriculture—building fences, using pesticides and other chemicals for growing
- Climate change
- Pollution—land, water, air
- Garbage and landfills
- Urban development—building on ecosystem land
- Mining
- Oil drilling and other natural resource industries

Show students the following two videos. These focus on an ecosystem centered around flat fields of sage brush in Western North America—which is threatened by oil drilling and human settlement. The videos look at the different species that are being threatened, and specifically how the migration patterns of deer are disrupted. <https://bit.ly/2Anh2RZ>

When videos are complete, ask students:

- How are species in an ecosystem affected when humans impact it?"

Invite students to "Think, Pair, Share" their answers. Discussion could include the following:

- Migration is disrupted by humans building on ecosystems. This hurts the animals' ability to meet their needs for food.
- Animals and plants can be poisoned or harmed by pollution in their ecosystem
- When ecosystems are broken up by human settlement, roads, etc. it limits the space in which animals can move. This affects their ability to mate, find food, spread seeds in their droppings, etc.
- When humans encroach on ecosystems, it leads to more and more encounters between animals and people. This can be harmful to both parties, but it can lead to animals being killed or harmed.
- Climate change affects ocean temperatures, causing certain species to die. Climate change also affects species in other ecosystems: the rise in wildfires in forests, for example.

Ask students to recall how some of the species in the *Animals Back from the Brink* series declined because of the human impact on their ecosystem.

- For example, the giant panda declined heavily because the bamboo forests were being cut down for agriculture, and because the once-vast bamboo forest had been cut into sections by roads and settlements, preventing the pandas from traveling beyond their area and mating with one another.

Activity

Explain to students that they will examine how an ecosystem changed from healthy to unhealthy after human impact—causing a species to become threatened.

Students will each choose one of the species from the *Animals Back from the Brink* series (giant panda, grey wolf, American alligator, whooping crane, humpback whale, and grizzly bear).

They will create two pictures using the medium of their choice—one that shows a healthy ecosystem in which their chosen species would thrive, and one that shows the unhealthy ecosystem that caused the species to become threatened.

Students should use the *Animals Back from the Brink* books and their devices to research how a healthy and unhealthy ecosystem would look. They will use the *Human Impact Worksheet* to help guide them.

Students will need to be familiar with visual art techniques prior to this lesson. Teacher should review visual art techniques with students.

They might include:

- Color—tints, shades
- Space
- Lines
- Shadows
- Signs and symbols

Explain to students that they should use art techniques to portray a message through their art. Their art should show that the healthy ecosystem is vibrant, alive, and happy. It should show that the unhealthy ecosystem is unhealthy, damaging, and deadly.

For example:

- Students might choose to create their unhealthy ecosystem art using black and white only—while the healthy ecosystem has vibrant colors.
- Students may choose to use dull colors or cool colors for the unhealthy ecosystem to evoke sadness or a lack of life, while the healthy ecosystem uses warm or bright colors.
- Students might use a lot of empty space in their unhealthy ecosystem to show the lack of life—while the healthy ecosystem is full on the page.
- Lines in the unhealthy ecosystem might be jagged and harsh, while soft lines in the healthy ecosystem evoke the connections between living things there.
- Dark shadows could feature in the unhealthy ecosystem

Teacher may choose to create an exemplar for students to refer to. Teacher should present the art techniques on the board for students to refer to.

Hand out *Human Impact Worksheet*. Students are also required to fill out the worksheet and answer the questions on it, to accompany their artwork. The questions show that they understand the core concepts related to how humans have impacted that ecosystem. They are also required to answer an extension question on the worksheet that asks them to identify how humans have helped the ecosystem.

As students plan and create their art, conference with them to ensure they are on the right track. Ask them how their art concepts help send a message.

Extensions

- ▶ Have students create a storyboard or graphic novel that shows how the ecosystem declined and recovered. They can create a narrative to detail the change in the ecosystem through a creative, story format.
- ▶ Students can create a timeline that details the species' decline and recovery, using dates and facts.

Wrap-Up

Have students present their art to the class and describe how they used art to portray the ecosystem comparison.

OR

Using the Bansho technique, have the students display and explain their art. Split the class in two. One half presents their art and stands with it, and the other half browses their peers' artwork and asks them questions about how they used art techniques to send a message about the ecosystem's health and the decline of the threatened species. After approximately 10 minutes, students switch roles. Teacher observes and facilitates.

See this link to learn about the technique: http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_bansho.pdf

After art is presented, discuss how, despite the negative impact that humans can have on ecosystems, they are actively working to improve ecosystems around the world.

Students identified one way that humans help their chosen ecosystem on their worksheet. Ask them to share some of those responses, and also use examples from the *Animals Back from the Brink* series to illustrate.

Assessment

Use *Depicting the Human Impact Rubric* to assess artwork and *Human Impact Worksheet*.

Name: _____ Date: _____

Human Impact Worksheet

The species I chose is: _____

This species lives in a _____ ecosystem.

Explain how the species gets the things it needs to survive—food, shelter, and water—in its ecosystem, when the ecosystem is healthy.

Identify two ways humans negatively impacted the species' ecosystem:

1. _____

2. _____

Human Impact Worksheet

How did the human impact cause the species to become threatened, endangered, or nearly extinct?

We aren't all bad! Identify and explain one way that humans worked to either lessen their negative impact or make a positive impact to save the threatened species.

Depicting the Human Impact Rubric

Student's Name: _____

Date: _____

	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding	Student identifies less than two ways humans negatively impacted their chosen ecosystem, with clarity issues. Student may not identify one way that humans worked to help the ecosystem.	Student identifies two ways humans negatively impacted their chosen ecosystem and one way that humans worked to help the ecosystem. Some clarity issues or a missing component is present.	Student clearly identifies two ways humans negatively impacted their chosen ecosystem and one way that humans worked to help the ecosystem.	Showing exceptional insight, student clearly identifies two ways humans negatively impacted their chosen ecosystem and one way that humans worked to help the ecosystem.
Thinking	Analysis of how the human impact on an ecosystem led to the near extinction of a species is unclear or is missing. Student does not effectively contrast a healthy ecosystem with an unhealthy one.	Student has some gaps in their analysis of how the human impact on an ecosystem led to the near extinction of a species. Student contrasts a healthy ecosystem with an unhealthy one with some clarity challenges.	Student analyzes how the human impact on an ecosystem led to the near extinction of a species. Student clearly contrasts a healthy ecosystem with an unhealthy one.	Student makes strong analysis on how the human impact on an ecosystem led to the near extinction of a species. Using clear and unique art methods, student contrasts a healthy ecosystem with an unhealthy one.
Application	Application of knowledge about human threats to ecosystems and impacts on threatened species is unclear in artwork. Message in artwork is missing or unclear. Art techniques are not utilized in any visible way.	Application of knowledge about human threats to ecosystems and impacts on threatened species is somewhat clear in artwork. Message in artwork is present, but it does not feature insight or strong art techniques.	Student applies their knowledge of human threats to ecosystems and impacts on threatened species by creating artwork that sends a message about ecosystem threats. Art clearly compares a healthy and unhealthy ecosystem.	Student applies their knowledge of human threats to ecosystems and impacts on threatened species by creating artwork that sends a strong message about ecosystem threats. Art clearly compares, using strong art techniques, a healthy and unhealthy ecosystem.
Communication	Art fails to convey meaning related to the ecosystem's threats and their effects. Art may be understood, but not with ease. Message is unclear.	Art somewhat conveys meaning related to the ecosystem's threats and their effects. Art is understandable but not with ease—requires some explanation and some ideas are unclear or missing.	Art conveys meaning related to the ecosystem's threats and their effects. Art engages the audience and can be easily understood.	Art clearly conveys meaning related to the ecosystem's threats and their effects. Art engages the audience and can be understood immediately, allowing for enhanced learning and discussion.

LESSON 3

Exploring Collaborative Action and Creating My Conservation Action Plan

Curriculum Correlations

Ontario Science and Technology

Grade 4 Understanding Life Systems:

Habitats and Communities

1.1, 1.2

Next Generation Science Standards

5-ESS3-1.

MS-ESS3-3.

Materials

- Books from *Animals Back from the Brink* series
- Chart paper and markers
- Piece of 11x17 paper for posters
- Pencils, colored pencils
- *My Conservation Action Plan Worksheet*
- *My Conservation Action Plan Rubric*
- *Collaborating for a Cause Worksheet*

Objectives

Students will be able to:

- Identify the impact that human activity has on an ecosystem and on a specific threatened species.
- Explore ways that humans can positively impact ecosystems and protect threatened species.
- Examine a collaborative effort to save a threatened species from extinction.
- Make text-to-self connections as they create a conservation action plan that includes three strategies and actions they will use to help protect that species and their ecosystem.

Setting the Stage

Group students into small groups of 4-6. Hand each group a different book from the *Animals Back from the Brink* series. Hand each group chart paper and markers.

Students will read the book in their small groups and identify the ways that human intervention helped (or did not help) the threatened species and its ecosystem.

Instruct students to write the ways that humans successfully and unsuccessfully intervened in the situation. Students can choose how to arrange their chart. They could use a Venn Diagram to compare interventions, a T-Chart, or a web, for example.

Give students approximately 15 minutes to complete the activity. Then, invite them to share their charts with the class. Hold a discussion about some of the common successful interventions. Talk about the unsuccessful interventions that were identified (if any) and why they feel that these ultimately did not work.

Activity #1

Pair students or place them in groups of three and assign them one of the books in *Animals Back from the Brink* series. There will likely be two pairs or one group of three per book. Explain that they will browse the “Collaborating for a Cause” boxes in their assigned book and choose one that interests them.

Each pair gets a *Collaborating for a Cause Worksheet*. They will use the information in the book to write a sentence that answers the who, what, when, where, why, and how of the collaborative effort. Teacher can choose to provide students with devices to conduct outside research, if necessary, or limit the activity to the books only.

Teacher posts a picture of each of the six *Animals Back from the Brink* animals in different places around the classroom (giant panda, whooping crane, grizzly bear, humpback whale, gray wolf, American alligator). When students are finished their worksheets, they should use tape to post their worksheet under the picture of the animal that the conservation effort had worked to save.

When all students are finished and worksheets are posted beneath the appropriate pictures, conduct a gallery walk. Have students read about the collaborative conservation efforts to save different threatened species.

After gallery walk, have a class discussion about collaboration efforts. Have students think about the types of people and organizations who were involved in the efforts, and how well the efforts may have worked to protect the species and its ecosystem. Prompt the students with questions such as:

- What kinds of people or organizations were involved in the collaboration efforts?
- Were any of the efforts international?
 - ▶ Did any of the efforts involve the U.S. or Canadian government?
- How was species conservation a common cause for many groups?
Why do you think so?
- Why is collaboration important when working toward a cause?

Activity #2

Explain to students that experts, scientists, governments, organizations, and conservationists are not the only people who can get involved in threatened species protection. All people play an important role in ensuring the conservation and protection of threatened species.

Open one *Animals Back from the Brink* book to page 28-29 and read the “ ___ Needs You!” spread. Have a class discussion about the everyday strategies that were identified on the page.

Hand out *My Conservation Action Plan Worksheet*. Explain to students that they will research one of the currently endangered species that are identified in any of the *Animals Back from the Brink* books, identify the threats it faces, and create their own conservation action plan that has three or more strategies they will use to help protect that species and their ecosystem.

Students will choose a currently threatened species from the books. Each book includes a page, “Saving Other Species,” that examines currently threatened species. Page 6-7 of each book also includes a caption with an example of a currently threatened species.

*Teacher may decide to give students more or less freedom in choosing a species to research.

The species students choose must be on the IUCN red list. Teacher may choose to review the IUCN classifications. Students should choose a species that is classified as either vulnerable (VU), endangered (EN), or critically endangered (CR).

Students can use the following list of websites to conduct their research. Teacher may also decide to provide other sources for students to use.

<https://www.worldwildlife.org/initiatives/protecting-species>

<http://www.iucnredlist.org/>

<http://www.endangered.org/>

<https://www.thecanadianencyclopedia.ca/en/article/endangered-animals/>

<https://www.fws.gov/endangered/species/us-species.html>

Students will answer the questions on the worksheet. Then they will create a *My Conservation Action Plan* poster that shows, using images and words, the three or more strategies that they will take on.

Remind students that they will need to include a reference page with the sources that they used for this assignment.

Extensions

- ▶ If students are unable to complete this activity on their own, they can complete it in small groups from a preselected list of species.
- ▶ Teacher can model how to navigate provided research websites and show students a model of a personal protection plan first.
- ▶ Students can create a blog or class websites outlining the steps that they will collectively take to protect threatened species around the world.
- ▶ Students can carry out the strategies in their action plan for a predetermined period of time, then complete a reflection activity in which they consider which strategies were successful for them and which they may change.
- ▶ Students could monitor their chosen species’ progress and carry out further research on strategies that could help the species.

Wrap-Up

Hang students’ posters on the walls around the classroom. Have a gallery walk in which students look at their peers’ strategies. As students practiced the gallery walk in the first activity, they should be able to conduct themselves to gather information in a useful way here.

Hold a class discussion in which they reflect on the strategies they saw on the poster boards. Ask students:

- Did you learn any new strategies when you walked around the room? What were they?
- Did any strategies overlap for many species? What were they?
- Did anything surprise you?
- What did you find challenging about this activity?

Assessment

Use *My Conservation Action Plan Rubric* to assess worksheet and poster. Use anecdotal notes to assess student participation in the lesson and in the gallery walks.

Name: _____ Date: _____

Collaborating for a Cause Worksheet

<p>Who</p>	<p>What</p>
<p>When</p>	<p>Where</p>
<p>Why</p>	<p>How</p>

Name: _____

Date: _____

My Conservation Action Plan

Part 1: Answer the questions below.

Choose one currently threatened species from any of the Animals Back from the Brink books. Your species must be classified by the IUCN as vulnerable (VU), endangered (EN), or critically endangered (CR).

What is the name of your species?

Where in the world is your species located?

In what type of ecosystem does your species live?

How is your species threatened?

Use the following prompts to help create your answer.

- Is the species' ecosystem being damaged? How?
- Does the species face threats from humans? How?
- Is climate change affecting the species? How?

Part 2: Poster

Create a poster that shows your personal conservation action plan.

My Plan to Save the _____!

Based on the information you collected and your answers to the questions above, create three strategies that you can use or actions that you can do to help protect the species.

Create a poster that shows your personal conservation action plan. Your poster should include:

1. The title "My Plan to Save the _____!"
2. The name of your species.
3. Pictures or words showing or describing three strategies or actions you can do to help protect it and conserve its ecosystem.
4. Visuals that help engage a viewer and support the strategies on your poster.



My Conservation Action Plan Rubric

Student's Name: _____

Date: _____

	Level 1	Level 2	Level 3	Level 4
Knowledge and Understanding	Student does not clearly identify a threatened species that appears on the IUCN red list. Student does not locate or identify the species' ecosystem.	Student identifies a threatened species, but it may not appear on the IUCN red list. Student may not locate and identify the species' ecosystem.	Student identifies a threatened animal species that appears on the IUCN red list. Student locates and identifies the species' ecosystem.	Student identifies a threatened animal species that appears on the IUCN red list. Student shows insight on the type of ecosystem and its relation to the geographical location.
Thinking	Student does not conduct adequate research on the threats to the species and does not conclude any reason why the species is threatened.	Student may complete some research on the threats to the species and concludes at least one reason why the species is threatened, with some clarity issues.	Student researches the threats to the species and concludes at least one reason why the species is threatened.	Student researches the threats to the species and, showing insight, concludes at least one reason why the species is threatened.
Application	Student attempts to apply their conclusion about the threats to the species with limited success, by developing one or no personal conservation strategies, which do not clearly relate to the threats faced.	Student attempts to apply their conclusion about the threats to the species with some success, by developing three or less personal conservation strategies, which somewhat relate to the threats faced.	Student applies their conclusion about the threats to the species by developing three personal conservation strategies, which relate to the threats faced.	Showing exceptional insight, student applies their conclusion about the threats to the species by developing three or more personal conservation strategies, which directly relate to the threats faced.
Communication	Poster is missing some words or visuals. Student does not clearly present or explain strategies.	Using a poster with words and visuals, student presents and explains their strategies with some clarity issues.	Using a poster with words and visuals, student clearly presents and explains their strategies.	Using a poster with highly engaging words and visuals, student clearly presents and explains their strategies.