COMPANION LEARNING RESOURCE GUIDE

3rd-5th Grade Formal Education Curriculum:

Can We Save an Ecosystem?

Teacher Guide





Companion Learning Resource Guide for Teachers

America the Beautiful: Our Natual Wonders

Narrated by Kelsey Grammer

Next Generation Science Standards

3-LS4-4 Biological Evolution: Unity and Diversity

"Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change."

5-ESS3-1 Earth and Human Activity

"Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment."

Objective

After viewing some of America's most wild and wonderful landscapes, 3rd-5th graders are now responsible for managing their own! Students receive a limited "conservation budget," and must think critically to understand ecological problems, identify priorities, analyze costs, and build a budget to form a plan for saving a threatened ecosystem.

Key Concepts

▶ Ecosystems are highly interconnected. Making even a few small changes to the environment affects the dynamics of the entire community.

▶ Conservation is the careful management and protection of nature. There are many ways to manage and protect nature, and every conservation plan is unique to its place and its people.

▶ Budgets may offer enough money to meet some project needs, but not enough money to meet all of them at once! It takes careful consideration and critical thinking to balance priorities and costs when building a budget.

▶ Because ecosystems are highly connected, some conservation solutions solve multiple problems at once. For example, replacing invasive plant species with native plant species may also improve issues with limited water, habitat loss, and wildlife decline!

Materials

▶ "Conservation Budget-Building" packets (enough for 1 packet per group).

▶ "Conservation Solutions Points Key" sheets (enough for 1 sheet per group).

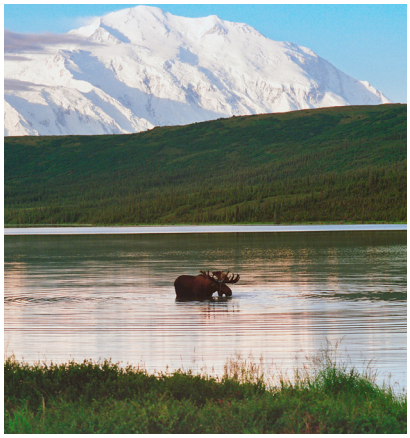
Setup

▶ Pre-assign groups of 3-4 students.

▶ Print "Conservation Budget-Building" packets (enough for 1 packet per group).

▶ Print "Conservation Solutions Points Key" sheets (enough for 1 sheet per group).

▶ If possible, allot 5-15 minutes during which students can spend time outside to notice and enjoy nature.



Vocabulary

Budget: a plan for how to use money during a certain period of time.

Conservation: the careful management and protection of nature.

Ecosystem: a community of plants, animals, and their environment.

Habitat: a home for a plant or animal.

Invasive Species: a plant or animal from another ecosystem that disturbs native species. Invasive species live in a place where they do not "belong," and make the ecosystem weaker.

Native Species: a plant or animal that "belongs" in the ecosystem where it lives, and makes the ecosystem stronger.

Procedure *Can We Save an Ecosytem?*

1. Read or share the following text with students:

America's national parks are special, protected places of wild beauty and deep importance. The actions that we take to support, protect, and learn about our national parks today will have a great effect on the plants, animals, and people to come.

2. Tell students that they will be imagining that America's newest national park is their very own school or neighborhood. To protect the new park, it is the students' job to investigate and solve the problems that are threatening the ecosystem.

3. Read or share the following text with students:
Fictional Story About America's Newest National Park:

"_____ National Park is the newest national park in the country, and is a special place worth protecting. Once known for its flowing streams, native plants, and bird-watching, _____ National Park is now facing a few serious problems. These problems include invasive species, human harm, limited water, development, and declining wildlife.

Learn more about each of these problems below:

Invasive Species: a plant or animal from another ecosystem that disturbs native species. Invasive species live in a place where they do not "belong," and make the ecosystem weaker.

Human Harm: visitors may leave harmful trash in the park, or even walk off of the trails and damage important native plant habitats. A habitat is a home for a plant or animal.

Limited Water: the park is in a time of drought, which is a long period of time without snow or rain. This means that the park is mostly dry, and there is very little water!

Development: the park includes many brand-new buildings, such as a visitor center, bathroom, and a small museum. These buildings are helpful to visitors, but each new building replaced an important habitat zone.

Declining Wildlife: The birds need water to drink, and native plants to build their nests. With less water and fewer native plants in the park, bird populations are declining. This means that birds are leaving the park, or having a difficult time surviving and having babies.

The park rangers at _____ National Park need your help to solve these park problems. Luckily, the park has just received a donation of $15,500 for conservation! It's time to build a budget, and figure out the best way to save the ecosystem so that the park's plants, animals, and people can continue to thrive.

It's time to build a budget, and figure out the best way to save the ecosystem so that the park's plants, animals, and people can continue to thrive."

4. Split the students into their pre-assigned small groups (3-4 students per group). Provide students with one "Conservation Budget-Building" packet per group. Instruct students to fill-in the blanks with your school or neighborhood name in the story section of page 1.

5. Instruct students to review and discuss the park ranger's notes, identifying the problems facing the new national park:

- **Conservation Budget**
  - **>** The Fawn Foundation has just donated $15,500 to the new park—just for conservation! Conservation is the careful management and protection of nature.
  - **>** The park cannot spend over $15,500 on this project. Stay within the budget!
  - **>** This money must be used as soon as possible, and cannot be saved for later! Use as much of the money as possible!

- **Notes & Observations**
  List of park problems:
  > Invasive Species: a plant or animal from another ecosystem that disturbs native species. Invasive species live in a place where they do not "belong," and make the ecosystem weaker.
  > Human Harm: visitors may leave harmful trash in the park, or even walk off of the trails and damage important native plant habitats. A habitat is a home for a plant or animal.
  > Limited Water: the park is in a time of drought, which is a long period of time without snow or rain. This means that the park is mostly dry, and there is very little water!

> Development: The park includes many brand-new buildings, such as a visitor center, bathroom, and a small museum. These buildings are helpful to visitors, but each new building replaced an important habitat zone.

> Declining Wildlife: The birds need water to drink, and native plants to build their nests. With less water and fewer native plants in the park, bird populations are declining. This means that birds are leaving the park, or having a difficult time surviving and having babies.

• There are TEN SECTIONS of the park ecosystem that are being harmed by invasive species. The invasive plants are replacing many of the native plants!

• Some visitors are leaving food wrappers on the ground in the park! Birds smell the food on the littered wrappers, eat the trash, and become very sick!

• The invasive plants are thirsty, and are using up the park's limited supply of water. The native plants do not need very much water to grow, and leave more water for other plants and animals.

• Without water to drink and native plants for nesting, there are less and less birds in the park.

• Invasive plants may "steal" water from the native plants that help to keep the ecosystem strong. Native plants often need less water to survive, which means they are better suited to ecosystems with limited water.

• Rain barrels capture runoff water from building roofs during rainy seasons, and are used to "recycle" this unused water during droughts.

• A habitat is a home for a plant or animal. The park ecosystem contains many different habitats! However, the park's buildings replaced a grove of native plants that was an important habitat for the park's wildlife. Loss of habitat has led to a decline in wildlife. Planting native species helps to replace habitat lost during development, and increase wildlife populations.

6 Instruct students to complete Questions 1-4 in their budget packets:

• **Question 1:** "What are the five big problems facing the new national park? Explain in your own words."

• **Question 2:** "Which park problem do you think is the most serious? Explain."

• **Question 3:** "Which park problem do you think is the least serious? Explain."

• **Question 4:** "Look at the list of problems above. Do any problems get repeated? What could a repeating problem mean?"

7 Instruct students to review and discuss the "Conservation Solutions & Costs Table" with their groups. Then, ask them to complete Question 5 in their budget packets:

Conservation Costs Table

CONSERVATION SOLUTION	COST
Buy new park signs that teach guests about the effects of littering.	$500
Buy new trash grabbers, safety gloves, and trash bags for volunteer cleanup events.	$500
Spread mulch around trees to help lock-in water in the soil for the tree's roots.	$500
Buy rain barrels to store unused rainwater for plants and animals during droughts.	$500
Buy new birdhouses, and bee hotels for the birds and bees who lost their habitats when the visitor center, bathroom, and small museum were built.	$500
Buy more trash cans and recycle bins for the park to help stop littering.	$1,000
Remove ONE section of invasive plants that do not belong, and replace them with native plants that will help to make the ecosystem stronger. (10 sections in all)	$1,000
Fix leaky pipes, which cause accidental water waste.	$1,000
Buy small animal watering stations that will provide freshwater year-round, such as a birdbath or small wildlife pond.	$1,000
Hire a cleaning service to keep the park clean year-round.	$10,000
Buy and install guard-rails for one section-of trail to keep visitors from leaving park trails and damaging important native plant habitats.	$10,000
Remove ALL sections of invasive plants that do not belong, and replace them with native plants that will help to make the ecosystem stronger. (10 sections in all).	$10,000

• **Question 5:** "Which conservation solutions will help to solve the most serious park problem? Explain."

8 Remind students that The Fawn Foundation has just donated $15,500 to the new park - just for conservation! Conservation is the careful management and protection of nature. Instruct students to fill-in the blanks with your school or neighborhood name in the "Build Your Budget" section of their budget packets.

9 Review budget-building goals and rules with students:

- **Goal**

To build your best conservation budget for _____ National Park.

> A budget is a plan for how to use money during a certain period of time. Using $15,500 donated by The Fawn Foundation, you will create your own unique plan to save the park's threatened ecosystem.

- **Rules**

> Your conservation budget for this project is $15,500, and you must stay within your budget! You cannot spend more than $15,500.

> While saving is usually a great practice, this money must be used as soon as possible, and cannot be saved for later! You must try to spend all of your money.

> You may buy any solution multiple times, as long as you have enough money to do so.

10 It's time for students to decide how to invest their very own conservation budget! They will have enough money to fix some of the park problems, but not enough money to fix all of them. Encourage students to think carefully about which problems matter most, and the cost to fix them.

11 Instruct students to complete the Conservation Investments Table table to show how they plan to use their conservation budgets to save the park ecosystem. Under "investment," students should write how much of their money will be used for each solution. Students should write $0 for the investments that they do not choose to make.

Example:

Conservation Investments Table

CONSERVATION SOLUTION	COST	INVESTMENT
▶ Buy new park signs that teach guests about the effects of littering.	$500	$0
▶ Buy new trash grabbers, safety gloves, and trash bags for volunteer cleanup events.	$500	$0
▶ Spread mulch around trees to help lock-in water in the soil for the tree's roots.	$500	$1,000

12 Praise students for their critical thinking and careful planning skills! Then, instruct students to complete Questions 6-9 in their budget packets:

- **Question 6:** What was the total amount of money that you invested? Total: $_____
- **Question 7:** Describe each conservation solution that you chose to invest in, and explain the reason behind your choice.

(Note: Each group will have a different number of investments, depending on their own unique budgeting choices!)

- **Question 8:** List three conservation solutions that you did not choose to invest in. Explain the reason behind your choice.
- **Question 9:** Now that you have built your conservation budget, which park problems do you think you can solve? Explain.

13 It's time to analyze the results! Provide each student group with a "Conservation Solutions Points Key" sheet, instructing them to discuss their results and answer Questions 10-12 in their budget packets. Then, discuss student answers aloud as a class:

- **Question 10:** Using the Conservation Solutions Points Key, add up your points for the solutions you chose. What was your total score?
- **Question 11:** Which conservation solution was worth the most points? Why?
- **Question 12:** Imagine that the park rangers want to test whether or not these conservation solutions are really helping. Describe one way that they could test the results.

14 Ask students to have one final discussion as a group to answer and complete Questions 13-14 in their budget packets. After a few minutes, ask students to share their answers with the class:

- **Question 13:** Often, real-world budgets do not allow every problem to be solved right away. What is the best way to choose which problems will be solved first?
- **Question 14:** Using books or electronic devices, search for at least one new solution to the one of the park problems mentioned in this packet: invasive species, human harm, limited water, development, or wildlife decline. What is at least one way that people from a different continent, country, or community use science ideas to protect their own ecosystems and environment?

15 Remind students that while the park problems they investigated in their activity today were fictional, these problems are real-world issues facing natural areas all over the world. Tell students they did a great job solving the problems facing the special ecosystem in _____National Park. Park rangers, scientists, politicians, activists, artists, and many others are also working hard to solve these problems every day. Protecting and restoring ecosystems is important work for everyone—plants, animals, and our environment! Learn more about ecosystem restoration on the National Park Service website:

https://www.nps.gov/articles/000/idkt_ecosystem-restoration.htm



Analysis *"My Home, the Beautiful" Time*

16 Move students to an outdoor area for just 5-15 minutes, ideally within walking distance but away from as much human-induced noise as possible. Invite them to quietly sit, stand, or lay down in the grass, and notice beauty worth protecting around them - however small or familiar! Encourage them to touch the dirt, grass, twigs, and leaves; feel the warm/cool air on their skin; listen for birds, bugs, and the wind; smell the plants around them; and to search for insects.





- **Review & Discussion**
  - **>** How can making a small change to an ecosystem, such as removing invasive plants and adding native plants, have huge effects on the whole community?
  - **>** What is conservation, and why is it important?
  - **>** Budgets may offer enough money to meet some project needs, but not all of them at once! How did you balance priorities and costs when building your conservation budget?
  - **>** What is one example of a conservation solution that can solve multiple problems at once?
  - **>** Human activity can be harmful to the environment. What are a few examples of ways that humans can also choose to live in harmony with other life on earth?
  - **>** What is one thing you saw in the *America the Beautiful: Our Natural Wonders* film that surprised or amazed you?



Conservation Solutions Points Key

CONSERVATION SOLUTION	PROBLEMS SOLVED	POINTS
▶ Buy new park signs that teach guests about the effects of littering.	• Human harm (5)	5
▶ Buy new trash grabbers, safety gloves, and trash bags for volunteer cleanup events.	• Human harm (5)	5
▶ Spread mulch around trees to help lock-in water in the soil for the tree's roots.	• Limited water (5) • Declining wildlife (5)	10
▶ Buy rain barrels to store unused rainwater for plants and animals during droughts.	• Limited water (5) • Declining wildlife (5)	10
▶ Buy new birdhouses, and bee hotels for the birds and bees who lost their habitats when the visitor center, bathroom, and small museum were built.	• Development (5) • Declining wildlife (5)	10
▶ Buy more trash cans and recycle bins for the park to help stop littering.	• Human harm (15) • Declining wildlife (15)	30
▶ Remove ONE section of invasive plants that do not belong, and replace them with native plants that will help to make the ecosystem stronger. (There are 10 sections in all).	• Invasive species (15) • Human harm (15) • Development (15) • Declining wildlife (15)	60
▶ Fix leaky pipes, which cause accidental water waste.	• Limited water (15) • Declining wildlife (15)	30
▶ Buy small animal watering stations that will provide freshwater year-round, such as a birdbath or small wildlife pond.	• Limited water (15) • Declining wildlife (15)	30
▶ Hire a cleaning service to keep the park clean year-round.	• Human harm (150) • Declining wildlife (150)	300
▶ Buy and install guard-rails for one sectionof trail to keep visitors from leaving park trails and damaging important native plant habitats.	• Human harm (150)	150
▶ Remove ALL sections of invasive plants that do not belong, and replace them with native plants that will help to make the ecosystem stronger. (There are 10 sections in all).	• Invasive species (150) • Human harm (150) • Development (150) • Declining wildlife (150)	600

COMPANION LEARNING RESOURCE GUIDE

3rd-5th Grade Formal Education Curriculum:

Can We Save an Ecosystem?

Student Packet



Name: _____



Companion Learning Resource Guide for Students

America the Beautiful: Our Natual Wonders

Narrated by Kelsey Grammer

America's National Parks

America's national parks are special, protected places of wild beauty and deep importance. The actions that we take to support, protect, and learn about our national parks today will have a great effect on the plants, animals, and people to come.

The Investigation Begins

Imagine that America's newest national park is your very own school or neighborhood. To protect the new park, it is your job to investigate and solve the problems that are threatening the ecosystem. Ready to learn more?

Fictional Story About America's Newest National Park:

"_____ National Park is the newest national park in the country, and is a special place worth protecting. Once known for its flowing streams, native plants, and bird-watching, _____ National Park is now facing a few serious problems. These problems include invasive species, human harm, limited water, development, and declining wildlife.

Learn more about each of these problems below:

> **Invasive Species:** a plant or animal from another ecosystem that disturbs native species. Invasive species live in a place where they do not "belong," and make the ecosystem weaker.

> **Human Harm:** visitors may leave harmful trash in the park, or even walk off of the trails and damage important native plant habitats. A habitat is a home for a plant or animal.

> **Limited Water:** the park is in a time of drought, which is a long period of time without snow or rain. This means that the park is mostly dry, and there is very little water!

> **Development:** the park includes many brand-new buildings, such as a visitor center, bathroom, and a small museum. These buildings are helpful to visitors, but each new building replaced an important habitat zone.

> **Declining Wildlife:** The birds need water to drink, and native plants to build their nests. With less water and fewer native plants in the park, bird populations are declining. This means that birds are leaving the park, or having a difficult time surviving and having babies.

The park rangers at _____ National Park need your help to solve these park problems. Luckily, the park has just received a donation of $15,500 for conservation! It's time to build a budget, and figure out the best way to save the ecosystem so that the park's plants, animals, and people can continue to thrive.

It's time to build a budget, and figure out the best way to save the ecosystem so that the park's plants, animals, and people can continue to thrive."

Park Ranger Notes

Vocabulary

Budget: a plan for how to use money during a certain period of time.

Conservation: the careful management and protection of nature.

Ecosystem: a community of plants, animals, and their environment.

Habitat: a home for a plant or animal.

Invasive Species: a plant or animal from another ecosystem that disturbs native species. Invasive species live in a place where they do not "belong," and make the ecosystem weaker.

Native Species: a plant or animal that "belongs" in the ecosystem where it lives, and makes the ecosystem stronger.

Conservation Budget

The Fawn Foundation has just donated $15,500 to the new park—just for conservation! Conservation is the careful management and protection of nature.

> The park cannot spend over $15,500 on this project. Stay within the budget!

> This money must be used as soon as possible, and cannot be saved for later! Use as much of the money as possible!

Notes & Observations

- List of park problems:

> **Invasive Species:** a plant or animal from another ecosystem that disturbs native species. Invasive species live in a place where they do not "belong," and make the ecosystem weaker.

> **Human Harm:** visitors may leave harmful trash in the park, or even walk off of the trails and damage important native plant habitats. A habitat is a home for a plant or animal.

> **Limited Water:** the park is in a time of drought, which

is a long period of time without snow or rain. This means that the park is mostly dry, and there is very little water!

> Development: the park includes many brand-new buildings, such as a visitor center, bathroom, and a small museum. These buildings are helpful to visitors, but each new building replaced an important habitat zone.

> Declining Wildlife: The birds need water to drink, and native plants to build their nests. With less water and fewer native plants in the park, bird populations are declining. This means that birds are leaving the park, or having a difficult time surviving and having babies.

• There are TEN SECTIONS of the park ecosystem that are being harmed by invasive species. The invasive plants are replacing many of the native plants!

• Some visitors are leaving food wrappers on the ground in the park! Birds smell the food on the littered wrappers, eat the trash, and become very sick!

• The invasive plants are thirsty, and are using up the park's limited supply of water. The native plants do not need very much water to grow, and leave more water for other plants and animals.

• Without water to drink and native plants for nesting, there are less and less birds in the park.

• Invasive plants may "steal" water from the native plants that help to keep the ecosystem strong. Native plants often need less water to survive, which means they are better suited to ecosystems with limited water.

• Rain barrels capture runoff water from building roofs during rainy seasons, and are used to "recycle" this unused water during droughts.

• A habitat is a home for a plant or animal. The park ecosystem contains many different habitats! However, the park's buildings replaced a grove of native plants that was an important habitat for the park's wildlife. Loss of habitat has led to a decline in wildlife. Planting native species helps to replace habitat lost during development, and increase wildlife populations.









Student Investigation

Identify the Problems

Question 1: What are the five big problems facing the new national park? Explain in your own words.

Problem 1: _____

_____

Problem 2: _____

_____

Problem 3: _____

_____

Problem 4: _____

_____

Problem 5: _____

_____

Pick Your Priorities

Question 2: Which park problem do you think is the most serious? Explain.

_____

_____

_____

_____

Question 3: Which park problem do you think is the least serious? Explain.

_____

_____

_____

_____

Question 4: Look at the list of problems above. Do any problems get repeated? What could a repeating problem mean?

_____

_____

_____

_____

Consider the Costs

Conservation Costs Table

CONSERVATION SOLUTION	COST
Buy new park signs that teach guests about the effects of littering.	$500
Buy new trash grabbers, safety gloves, and trash bags for volunteer cleanup events.	$500
Spread mulch around trees to help lock-in water in the soil for the tree's roots.	$500
Buy rain barrels to store unused rainwater for plants and animals during droughts.	$500
Buy new birdhouses, and bee hotels for the birds and bees who lost their habitats when the visitor center, bathroom, and small museum were built.	$500
Buy more trash cans and recycle bins for the park to help stop littering.	$1,000
Remove ONE section of invasive plants that do not belong, and replace them with native plants that will help to make the ecosystem stronger. (10 sections in all)	$1,000
Fix leaky pipes, which cause accidental water waste.	$1,000
Buy small animal watering stations that will provide freshwater year-round, such as a bird-bath or small wildlife pond.	$1,000
Hire a cleaning service to keep the park clean year-round.	$10,000
Buy and install guard-rails for one sectionof trail to keep visitors from leaving park trails and damaging important native plant habitats.	$10,000
Remove ALL sections of invasive plants that do not belong, and replace them with native plants that will help to make the ecosystem stronger. (10 sections in all).	$10,000

Question 5: Which conservation solutions will help to solve the most serious park problem? Explain.

Solution: _____

_____

Explanation: _____

_____

Solution: _____

_____

Explanation: _____

_____

Build Your Budget

Congratulations! The Fawn Foundation has just donated $15,500 to the new park - just for conservation! Conservation is the careful management and protection of nature. Using your new conservation budget, you will create your own plan to save the ecosystem so that the park's plants, animals, and people can continue to thrive.

Before you begin budget-building, read these goals and rules:

- **Goal:** To build your best conservation budget for _____ National Park.

  > A budget is a plan for how to use money during a certain period of time. Using $15,500 donated by The Fawn Foundation, you will create your own unique plan to save the park's threatened ecosystem.

- **Rules:**

  > Your conservation budget for this project is $15,500, and you must stay within your budget! You cannot spend more than $15,500.

  > While saving is usually a great practice, this money must be used as soon as possible, and cannot be saved for later! You must try to spend all of your money.

  > You may buy any solution multiple times, as long as you have enough money to do so.

It's time to decide how to invest your very own conservation budget! Think carefully about which problems matter most, and the cost to fix them. You have enough money to fix some of the park problems, but not enough money to fix all of them! Which will you choose?

Complete the table to show how you plan to use your conservation budget to save the park ecosystem. Under "investment," write how much of your money will be used for each solution. Write $0 for the investments that you do not choose to make.

Example:

Conservation Investments Table

CONSERVATION SOLUTION	COST	INVESTMENT
▶ Buy new park signs that teach guests about the effects of littering.	$500	0
▶ Buy new trash grabbers, safety gloves, and trash bags for volunteer cleanup events.	$500	0
▶ Spread mulch around trees to help lock-in water in the soil for the tree's roots.	$500	$1,000

Decide How to Invest

Conservation Investments Table

CONSERVATION SOLUTION	COST	INVESTMENT
Buy new park signs that teach guests about the effects of littering.	$500	
Buy new trash grabbers, safety gloves, and trash bags for volunteer cleanup events.	$500	
Spread mulch around trees to help lock-in water in the soil for the tree's roots.	$500	
Buy rain barrels to store unused rainwater for plants and animals during droughts.	$500	
Buy new birdhouses, and bee hotels for the birds and bees who lost their habitats when the visitor center, bathroom, and small museum were built.	$500	
Buy more trash cans and recycle bins for the park to help stop littering.	$1,000	
Remove ONE section of invasive plants that do not belong, and replace them with native plants that will help to make the ecosystem stronger. (There are 10 sections in all).	$1,000	
Fix leaky pipes, which cause accidental water waste.	$1,000	
Buy small animal watering stations that will provide freshwater year-round, such as a birdbath or small wildlife pond.	$1,000	
Hire a cleaning service to keep the park clean year-round.	$10,000	
Buy and install guard-rails for one sectionof trail to keep visitors from leaving park trails and damaging important native plant habitats.	$10,000	
Remove ALL sections of invasive plants that do not belong, and replace them with native plants that will help to make the ecosystem stronger. (There are 10 sections in all).	$10,000	

Question 6: What was the total amount of money that you invested?

Total: $ _____

Question 7: Describe each conservation solution that you chose to invest in, and explain the reason behind your choice. *(Note: Each group will have a different number of investments, depending on your own unique budgeting choices!)*

Conservation Solution: _____

Explanation: _____

Conservation Solution: _____

Explanation: _____

Conservation Solution: _____

Explanation: _____

Conservation Solution: _____

Explanation: _____

Conservation Solution: _____

Explanation: _____

Conservation Solution: _____

Explanation: _____

Conservation Solution: _____

Explanation: _____

Conservation Solution: _____

Explanation: _____

Conservation Solution: _____

Explanation: _____

Question 8: List three conservation solutions that you did not choose to invest in. Explain the reason behind your choice.

Rejected Solution: _____

Explanation: _____

Rejected Solution: _____

Explanation: _____

Rejected Solution: _____

Explanation: _____

Analyze the Results

Question 9: Now that you have built your conservation budget, which park problems do you think you can solve? Explain.

Question 10: Using the Conservation Solutions Points Key, add up your points for the solutions you chose. What was your total score?

Score: _____ points

Question 11: Which conservation solution was worth the most points? Why?

Question 12: Imagine that the park rangers want to test whether or not these conservation solutions are really helping. Describe one way that they could test the results.

Group Reflection

Question 13: Often, real-world budgets do not allow every problem to be solved right away. What is the best way to choose which problems will be solved first?

Question 14: Using books or electronic devices, search for at least one new solution to the one of the park problems mentioned in this packet: invasive species, human harm, limited water, development, or wildlife decline.

What is at least one way that people from a different continent, country, or community use science ideas to protect

You did a great job solving the problems facing the special ecosystem in _____ National Park.

Don't forget! Park rangers, scientists, politicians, activists, artists, and many others are also working hard to solve these problems every day. Protecting and restoring ecosystems is important work for everyone - plants, animals, and our environment! Learn more about ecosystem restoration on the National Park Service website:

https://www.nps.gov/articles/000/idkt_ecosystem-restoration.htm







Review & Discussion

How can making a small change to an ecosystem, such as removing invasive plants and adding native plants, have huge effects on the whole community?

What is conservation, and why is it important?

Budgets may offer enough money to meet some project needs, but not all of them at once! How did you balance priorities and costs when building your conservation budget?

What is one example of a conservation solution that can solve multiple problems at once?

Human activity can be harmful to the environment. What are a few examples of ways that humans can also choose to live in harmony with other life on earth?

What is one thing you saw in the *America the Beautiful: Our Natural Wonders* film that surprised or amazed you?