Name _____ Date _____

Wolves of Yellowstone

Read the passage and answer the questions.

The story of the wolves in Yellowstone National Park is an important example of how animals can affect an entire ecosystem. An ecosystem is a community of living things, like plants and animals, and their environment. In the early 1900s, wolves were removed from Yellowstone by people who thought they were dangerous to livestock. Without wolves, the number of elk grew quickly because there were fewer predators.

This change caused problems. Elk ate many willows, aspen, and other plants. With fewer plants, animals like beavers and birds lost their homes and food sources. The riverbanks also became weaker, leading to erosion. This is an example of a trophic cascade, which happens when changes at the top of the food chain affect all other parts of the ecosystem.

In 1995, scientists reintroduced wolves to Yellowstone. When wolves returned, they began to hunt elk. With fewer elk, plants had a chance to grow back. Beavers returned because they could use the willows for building dams. Birds came back too, as there were more trees and shrubs to nest in. Even the rivers changed, as stronger plants along the banks stopped erosion.

Name _____ Date _____

Wolves of Yellowstone

Read the passage and answer the questions.

This shows the importance of biodiversity, which means having many different kinds of living things in an area. Each species has a role in its ecosystem. Wolves are a keystone species, which means they have a big effect on the environment. Removing or adding a keystone species can change the entire ecosystem.

Today, scientists study the Yellowstone wolves to learn how predators help balance nature. This helps us understand why protecting all parts of an ecosystem is important, not just the most popular animals.

Interesting Fact: When wolves were reintroduced, it took less than 10 years for some plants and animals to return to areas where they had disappeared!

Glossary

wolves

Large wild animals that hunt in packs and are top predators.

willows

A type of tree or shrub that grows near water.

trophic cascade

A process where changes in one part of the food chain affect many other parts.

keystone species

A species that has a large effect on its ecosystem.

ecosystem

A community of living things and their environment.

aspen

A kind of tree with white bark, common in Yellowstone.

biodiversity

The variety of different living things in a certain area.

erosion

The wearing away of soil and rocks, often by water.

Name _____ Date _____

Glossary (continued)

Key vocabulary words and their definitions.

predators

Animals that hunt and eat other animals.

reintroduction

Bringing a species back to an area where it once lived.

Name _____ Date _____

Wolves of Yellowstone

Read the short passage and answer the questions

1. What happened to elk without wolves?

(A) They disappeared
(B) Their numbers increased quickly
(C) They hunted more animals
(D) They ate less plants

2. What is an ecosystem?

(A) A group of only animals
(B) Just a type of plant
(C) Only the river in Yellowstone
(D) A community of living things and environment

3. What year were wolves reintroduced?

(A) 1880
(B) 1900
(C) 2005
(D) 1995

4. How did rivers change after wolves returned?

(A) Flooded all the time
(B) Dried up completely
(C) Became stronger and healthier
(D) Became weaker from erosion

5. Why are wolves called keystone species?

(A) They can build dams
(B) They eat only plants
(C) They have a big effect on ecosystem
(D) They are the smallest animal

6. What does biodiversity mean?

(A) A type of erosion
(B) Many kinds of living things
(C) One kind of animal
(D) A type of river

7. Wolves are predators. True or false?

(A) False
(B) True

8. What is a trophic cascade?

(A) Change at top of food chain affects others
(B) Wearing away of soil
(C) A type of tree
(D) Animal homes disappearing

Name _____ Date _____

Writing Activity

Read the passage carefully and use the information to answer the questions below.

1. Explain what a trophic cascade is and give an example from Yellowstone.

2. Describe how the return of wolves changed the Yellowstone ecosystem. How does this relate to everyday life?

3. Design a simple investigation to show how removing a species affects an ecosystem. What would you observe?

Answer Key

Correct answers for the quiz questions.

1. What happened to elk without wolves?

(B) Their numbers increased quickly

2. What is an ecosystem?

(D) A community of living things and environment

3. What year were wolves reintroduced?

(D) 1995

4. How did rivers change after wolves returned?

(C) Became stronger and healthier

5. Why are wolves called keystone species?

(C) They have a big effect on ecosystem

6. What does biodiversity mean?

(B) Many kinds of living things

7. Wolves are predators. True or false?

(B) True

8. What is a trophic cascade?

(A) Change at top of food chain affects others

Answer Key - Writing Activities

Suggested answers for the writing questions.

Writing Activity

1. Explain what a trophic cascade is and give an example from Yellowstone.

A trophic cascade is when a change at the top of the food chain affects many other parts of the ecosystem. In Yellowstone, when wolves were removed, elk numbers grew and they ate too many plants. This caused problems for other animals and the environment. When wolves returned, plants and other animals came back, showing how one change can affect everything.

2. Describe how the return of wolves changed the Yellowstone ecosystem. How does this relate to everyday life?

The return of wolves helped plants grow back, brought back beavers and birds, and made rivers stronger. This shows that even one animal can make a big difference. In everyday life, it reminds us that all living things are connected, and protecting one species can help many others, including people.

3. Design a simple investigation to show how removing a species affects an ecosystem. What would you observe?

I would create a small model ecosystem with plants, herbivores, and predators. First, I would observe what happens with all species present. Then, I would remove the predator and watch how the herbivore population and plant growth change. I would record changes in numbers and plant health to see the effects of removing one species.

Name _____ Date _____

Wolves of Yellowstone (Spanish*)

Read the passage and answer the questions.

La historia de los **lobos** en el Parque Nacional de Yellowstone es un ejemplo importante de cómo los animales pueden afectar a todo un **ecosistema.** Un ecosistema es una comunidad de seres vivos, como plantas y animales, y su entorno. A principios de 1900, los lobos fueron eliminados de Yellowstone por personas que pensaban que eran peligrosos para el ganado. Sin lobos, el número de alces creció rápidamente porque había menos depredadores.

Este cambio causó problemas. Los alces comieron muchos **sauces, álamos** y otras plantas. Con menos plantas, animales como los castores y las aves perdieron sus hogares y fuentes de alimento. Las orillas de los ríos también se debilitaron, lo que llevó a la erosión. Esto es un ejemplo de una **cascada trófica,** que ocurre cuando los cambios en la cima de la cadena alimentaria afectan a todas las demás partes del ecosistema.

En 1995, los científicos reintrodujeron lobos en Yellowstone. Cuando los lobos regresaron, comenzaron a cazar alces. Con menos alces, las plantas tuvieron la oportunidad de crecer de nuevo. Los castores regresaron porque podían usar los sauces para construir presas. Las aves también volvieron, ya que había más árboles y arbustos para anidar. Incluso los ríos cambiaron, ya que las plantas más fuertes en las orillas detuvieron la erosión.

Esto muestra la importancia de la **biodiversidad,** que significa tener muchos tipos diferentes de seres vivos en un área. Cada especie tiene un papel en su ecosistema.

** Machine translation; may contain inaccuracies.*

Name _____ Date _____

Wolves of Yellowstone (Spanish*)

Read the passage and answer the questions.

Los lobos son una **especie clave,** lo que significa que tienen un gran efecto en el entorno. Quitar o agregar una especie clave puede cambiar todo el ecosistema.

Hoy, los científicos estudian a los lobos de Yellowstone para aprender cómo los depredadores ayudan a equilibrar la naturaleza. Esto nos ayuda a entender por qué es importante proteger todas las partes de un ecosistema, no solo los animales más populares.

Dato interesante: ¡Cuando se reintrodujeron los lobos, tomó menos de 10 años para que algunas plantas y animales regresaran a áreas donde habían desaparecido!

** Machine translation; may contain inaccuracies.*