

Language Frames

- Show me _____.
- Point to _____.
- Watch out!
- Be careful!

Give and Carry Out Commands

Listen to Rico's song. Then pretend you are somewhere outside, such as by a pond or in a forest. Use **Language Frames** with a partner to give and carry out commands.

Watch Out!

Song  

Watch out! Keep away from the water.
 Watch out! Keep away from the water.
 Point to the clams, but don't get close.
 Watch out or you'll slip in the water.

A crab, and a snail, and a
 starfish, too,
 All of them live in the
 tidepool zoo.
 Show me the clams and
 anemones.
 But do not touch them.
 Be careful, please!

Tune: "Boom! Boom! Ain't It Great!"



Key Words

drought

ecosystem

food chain

level

river

Key Words

Look at these pictures of two **ecosystems**. Use **Key Words** and other words to talk about each place.



◀ Bears catch fish in a **river**. If the bears eat too many fish, it will affect the **food chain**.



◀ In a **drought**, the water **level** falls. Elephants have less water to drink.

Talk Together

Imagine that you and your partner are by the water in the pictures. Use **Language Frames** from page 110 to give and carry out commands. Then use **Key Words** to discuss how an ecosystem can lose its balance.

Cause and Effect

A **cause** makes something happen. An **effect** is what happens. When you identify causes and effects, what you read, see, or hear becomes clearer.

Look at these pictures. Read the captions.



▲ Water gets trapped in rocks.



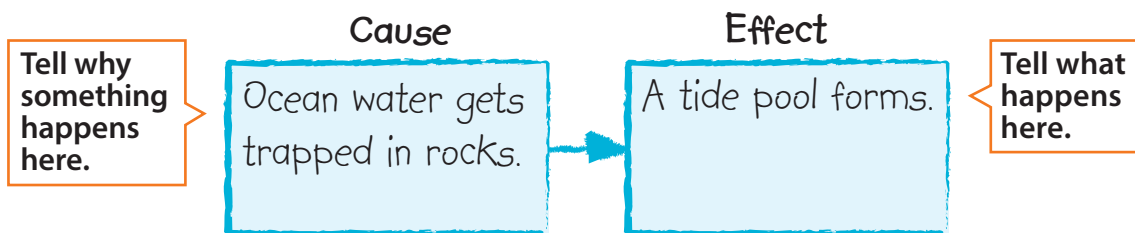
▲ A tide pool forms.

Map and Talk

You can use a cause-and-effect diagram to show what happens and why it happens. Here's how you make one.

A cause goes in the first box. The effect goes in the second box.

Cause-and-Effect Diagram



Talk Together

Look back at page 111. Find a cause and an effect. Make a diagram to show what happens, and why. Explain your diagram to a partner.

Read a Science Article

Genre

A **science article** is nonfiction. It can explain why certain things happen in nature.

Text Feature

A **time line** shows a sequence of important events. It tells about each event and when it happened.





WHEN THE WOLVES RETURNED

adapted from a book by **DOROTHY HINSHAW PATENT**



► Set a Purpose

Find out why wolves are an important part of an **ecosystem**.

THE FIRST NATIONAL PARK

Where would you go to see some of Earth's natural wonders? You might go to a place called Yellowstone. In Yellowstone, **geysers shoot steam** high into the air and waterfalls flow into colorful canyons. All kinds of wildlife roam the land. This special place became the world's first **national park** in 1872.



Yellowstone National Park is **primarily** in Wyoming, USA.



▲ Steam rises from a geyser.



▲ Yellowstone has many waterfalls.

geysers shoot steam hot water comes up from under the ground
national park protected area of land
primarily mainly

A photograph of two wolves running through a snowy landscape. The wolf in the foreground is a grey and white timber wolf, running towards the viewer with its mouth open. The second wolf is slightly behind and to the left, also running. The ground is covered in deep snow, and there are some evergreen trees in the background.

The Wolves of Yellowstone

1872–
1923

Many wolves live and hunt in Yellowstone National Park.

1924–
1943

Hunters kill hundreds of wolves.

These wolves are hunting.

TROUBLE WITH WOLVES

The purpose for making Yellowstone a national park was to protect its natural wonders for visitors. People enjoyed seeing animals, like elk and deer, in the park too. But wolves **fed on** them. So, hunters were paid to kill the wolves. **Park officials** did not understand that killing the wolves would **throw nature out of balance**.

fed on killed and ate

Park officials People in charge of Yellowstone

throw nature out of balance change the way animals usually live and die

► Before You Continue

1. **Cause/Effect** Why did the United States make Yellowstone a national park?
2. **Explain** Tell why wolves were a problem when Yellowstone first opened. Use your own words.



▲ The wolves disappeared. More and more elk filled the park.

YELLOWSTONE WITHOUT WOLVES

By 1926 the wolves were all gone. Without wolves to hunt them, the number of elk increased. To control the elk population, **rangers** trapped them and sent them to other parks. Rangers also had to shoot and kill the elk to keep their numbers down.



▲ fox

rangers park workers

The Wolves of Yellowstone

1872–
1923

Many wolves live and hunt in Yellowstone National Park.

1924–
1943

Hunters kill hundreds of wolves. Coyotes become the main predator.



▲ coyote

Coyotes also increased in number. Without wolves at the top of the **food chain**, they became Yellowstone's **main predator**. Coyotes eat everything from elk **calves** to insects. But mostly they eat small animals like ground squirrels. So coyotes made it harder for other small predators, like foxes, to find food.

main predator top killer
calves babies

► Before You Continue

1. **Cause/Effect** The wolves disappeared. What were the effects of that event on the **food chain**?
2. **Ask Questions** What questions might visitors have asked the park rangers in 1926?

PRONGHORNS IN DANGER

Coyotes in Yellowstone also fed on newborn **pronghorns**. They became experts at finding pronghorn **fawns**. With so many coyotes in the park, pronghorn numbers dropped. Every year, fewer pronghorn fawns survived. Park managers worried that pronghorns might disappear completely.



▲ pronghorn fawns

pronghorns animals that look like deer
fawns babies

NEW PLANTS DON'T GROW

Even the trees and shrubs **suffered** because the wolves were gone. The elk ate **young shoots** and bark. Young trees and shrubs could not grow fast enough to replace the old ones that died. Soon, the birds that **nested** in the trees and bushes became **rare**.



The Wolves of Yellowstone



◀ An elk eats young shoots.

suffered experienced **negative** effects
young shoots new plants
nested made their homes
rare fewer in number

► Before You Continue

- 1. Ask Questions** Ask a question about the pronghorns or elk in Yellowstone. Tell a partner how you plan to find the answer.
- 2. Sequence** What happened that led to some birds becoming rare in Yellowstone? Tell the events in order. Use your own words.

A close-up photograph of a beaver with wet, brown fur, gnawing on a piece of wood. The background shows water and some green plants.

A beaver builds a dam.

BEAVERS DISAPPEAR

Beavers use their teeth to cut down trees. They **store** the trees to eat during the winter. They also use the trees to build **dams**. Beaver dams create ponds that provide homes for ducks and other animals.

Without trees, the beavers could not survive. They were almost gone from part of the park by the 1950s.

store save

dams walls that hold back water

A SOLUTION

Many of the problems in the park began soon after the wolves were **eliminated**. Scientists predicted that bringing wolves back would help. Wolves could control the numbers of coyotes and elk. This would **allow** plants and other animals to live and grow.



squirrel ►

eliminated killed

allow make it possible for

The Wolves of Yellowstone

1872–
1923

Many wolves live and hunt in Yellowstone National Park.

1924–
1943

Hunters kill hundreds of wolves. Coyotes become the main predator.

1943–
1994

Pronghorn numbers drop; elk destroy trees; beavers disappear.

► Before You Continue

1. **Cause/Effect** When the beavers left, other animals in Yellowstone lost their homes. Why?
2. **Summarize** What have you learned so far about wolves? How do they affect the balance of **nature** in Yellowstone?

THE WOLVES RETURN

Wolves from Canada were brought to Yellowstone in 1995 and 1996. Seven groups of wolves were set free in the park. Each **pack** lived in a wide area called a territory. It didn't take long for the wolves to **feel at home**. There were a lot of animals, especially elk, for them to hunt.

Year by year, the number of wolves in Yellowstone grew. When a pack became too big, it broke into smaller packs. These groups slowly filled the park. Now, about twelve wolf packs live in Yellowstone. There are usually around 150 wolves in the park.



▲ young wolves



pack group of wolves
feel at home enjoy living in Yellowstone

The Wolves of Yellowstone

1872–
1923

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1924–
1943

Hunters kill hundreds of wolves. Coyotes become the main predator.

1943–
1994

Pronghorn numbers drop; elk destroy trees; beavers disappear.

1995–
1996

Wolves return to Yellowstone.



► Before You Continue

1. **Use Text Features/Make Inferences** What probably helped the wolf packs from Canada grow in Yellowstone?
2. **Evaluate** Was it a good idea to return wolves to Yellowstone? Use facts from the text to support your answer.

NATURE'S BALANCE RETURNS

Wolves saw the coyotes as **competition**. They killed coyotes or chased them out of their territories. Now, with fewer coyotes hunting them, pronghorn and other animals survive more easily. Foxes, owls, and other animals also **benefit**. There are fewer coyotes to **compete** with them for the same food.

Without wolves, elk **lingered along the streams** in the park. They ate young trees before they had a chance to grow. Now the elk must keep moving. This makes it harder for wolves to find them. Because the elk are moving, trees can grow again.



▲ Elk keep moving. They want to stay away from wolves.



benefit do better

compete fight

lingered along the streams stayed near the small **rivers**



The Wolves of Yellowstone

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1923

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Wolves return to Yellowstone.



► Before You Continue

1. **Cause/Effect** How do wolves help pronghorn survive?
2. **Details** What do elk do to stay safe from wolves?



▲ beaver



▲ owl

BEAVERS COME BACK

The animals that need the trees are also coming back. For example, in 1996 only one **beaver colony** lived in the northern part of the park. By 2003, there were nine. Scientists hope that birds that hunt from trees, like owls, will also **become more common**.

beaver colony group of beavers
become more common increase in number

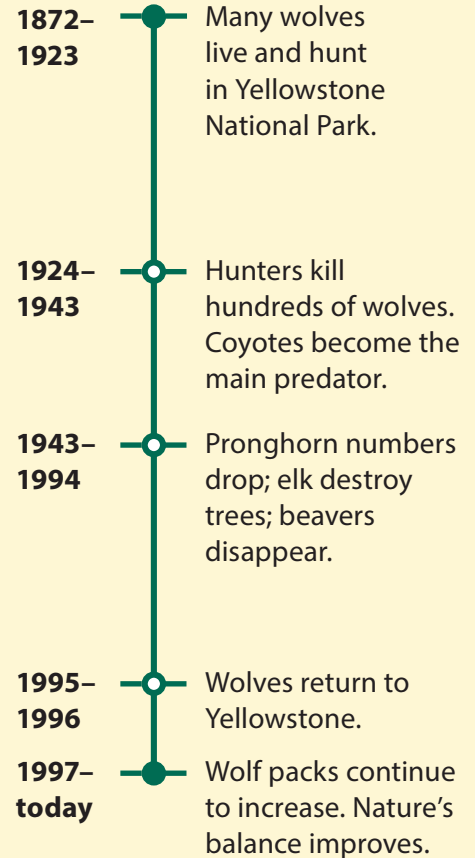
The Wolves of Yellowstone

A BALANCED ECOSYSTEM

Returning the wolf is helping to make Yellowstone **whole again**.

Scientists hope that as the years go by, even more plants and animals will come back.

Today, Yellowstone is becoming a healthy system again, thanks to the wolves' return. ❖

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- 1872–1923** Many wolves live and hunt in Yellowstone National Park.
 - 1924–1943** Hunters kill hundreds of wolves. Coyotes become the main predator.
 - 1943–1994** Pronghorn numbers drop; elk destroy trees; beavers disappear.
 - 1995–1996** Wolves return to Yellowstone.
 - 1997–today** Wolf packs continue to increase. Nature's balance improves.

whole again a balanced **ecosystem**

► Before You Continue

- 1. Details** Name two animals that need the trees in Yellowstone.
- 2. Author's Purpose** What is this article about? Why did the author write it?