



Where Animals and Plants Are Found

What I Need to Know

Vocabulary

- ecosystem
- canopy
- food chain
- food web
- extinct

What I Do

About Animals and Plants

Many different animals and plants live on Earth. They make up parts of different ecosystems. In an ecosystem, animals and plants are linked to one another and the land in a special way. Sometimes people can change ecosystems. The changes may mean that some animals disappear or become extinct.

Complete the Activities. When you are done, you will know about fish that attach themselves to sharks, a spider that eats birds, and how some snakes trick frogs. You will also know what one man did when he was squeezed by a 10-foot (3 m) boa constrictor.



Name _____ Date _____

Activity 1

In 1820, Charles Waterton went to Guyana. He wanted to bring new animals back to England. He saw a snake. It was a 10-foot (3 m) boa constrictor. The snake hissed angrily at him. There was not a minute to be lost. Waterton put his hand in his hat. Then, he drove his hat-covered fist right into the snake's jaws! How did Waterton get the snake to his camp? He let the stunned snake coil himself around his body! Waterton wrote, "He pressed me hard, but not alarmingly so."

Snakes live on every continent but Antarctica. However, the same kinds of snakes do not live on every continent. This is because different types of snakes live in different vegetative and climate zones.

The boa constrictor Waterton brought back most likely lived in what type of zone?

- A. tundra
- B. hot desert
- C. tropical rain forest
- D. cool or boreal forest

Find Guyana on the map.

What direction is Guyana from where you live? _____

Guyana's neighbor to the west is _____.



Activity 2

There are more than 2,700 different kinds of snakes. All snakes are part of **ecosystems**. There are different ecosystems all over the world. In each ecosystem, plants and animals are linked to one another and the land in a special way.

The southern copperhead uses a trick to attract its prey: it wriggles its bright yellow tail to hold a frog's attention. While the frog's attention is on the snake's tail, the snake gets ready and moves its front end into position to strike.

From the story, you can tell that

- A. all snakes eat frogs
- B. most snakes have tricks to attract prey
- C. the frog and the snake are part of the same ecosystem
- D. there are more than 2,700 different kinds of ecosystems



The southern copperhead has been found from south Delaware and Maryland down the East Coast and across to Texas. Have the snakes been found on both sides of the Mississippi River?



Name _____ Date _____

Activity 3

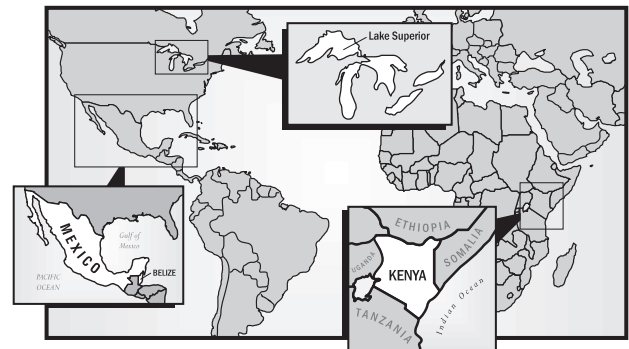
Marine ecosystems are water ecosystems. There are saltwater, freshwater, river, and tidal marine ecosystems.

Most sharks are part of saltwater ecosystems. They eat fish and marine animals. There is one kind of fish that sharks are linked to in a “friendly” way. It is called a remora.

Remoras have special suckers that they use to attach themselves to a shark’s skin. They clean the shark’s skin with their mouths. What do they get for their work? They get to eat part of what the shark catches.

Which is not part of a marine ecosystem?

- A. a whale that migrates up from Mexico
- B. a clam living on a coral reef off of Belize
- C. a mussel attached to a ship in Lake Superior
- D. an elephant using dust to give himself a bath in Kenya



On the map, find the four places listed in the answers. Which place is farthest east from where you live? _____

Activity 4

One scientist found a new ecosystem in the **canopy** of coastal redwood forests. Canopies are made of tree crowns. The crown is the top branches of the tree. Some coastal redwood trees are almost 2,000 years old. Some are as high as buildings with 37 stories!

High in the canopy, the scientist found new kinds of salamander and earthworm. These animals lived their entire lives above ground. He also found plants that get food and water from air and rain, and trees and shrubs that grow in soil on redwood tree branches.

From the story, you can tell that

- A. all the tree branches make up the tree crown
- B. it takes at least 2,000 years for an ecosystem to start
- C. canopy ecosystems are only found in coastal redwood trees
- D. ecosystems may be different at the top and bottom of trees

Coastal redwoods grow in central and northern California. They are rarely more than 10 miles (16 km) from the coast. Mark on the map where coastal redwoods are found.

What is a tree canopy? _____





Name _____ Date _____

Activity 5

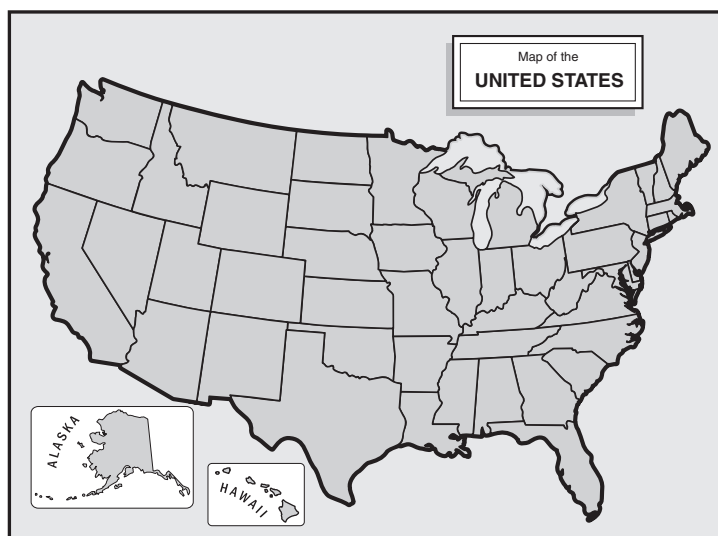
Monk parakeets are small birds from South America that were shipped to the United States to be sold as pets. In the 1960s, some escaped from their shipping crates. Over the years, the birds spread. The birds like to build their nests at electric substations and in utility poles. Nests for large flocks can grow as big as a car! The nests have caused fires and the power to go out.

In 2006, people in Texas built platforms that they were hoping would lure, or attract, birds away from the electric substations and utility poles.

From the story, you can tell that

- A. all utility lines will need to be buried
- B. there are more fires today than in the 1960s
- C. animals brought to new ecosystems may cause changes
- D. monk parakeets would have migrated to the United States

Today, colonies of monk parakeets have been found in Illinois, New York, New Jersey, Florida, Virginia, Washington state, Louisiana, Connecticut, and Texas. Find and label these states on the map.



Count the number of different kinds of birds you see today. Do you think your number will be fewer or more than it would be if you counted the birds at the same place 50 years ago? _____

Activity 6

The world's biggest spider is the goliath bird-eating spider. It can measure up to 11 inches (28 cm) across. (This measurement includes its legs.) The spider has fangs that are used to inject venom into its prey. The spider eats frogs, bats, rodents, lizards, beetles, and birds. To humans, the spider's bite is no more harmful than a bee sting.

The spider has hair on its legs that is stiff and hard. The spider can make a loud hissing sound when it rubs the hair together that can be heard up to 15 feet (5 m) away! The rubbing also flings the sharp hairs into the air. The flying hair and hissing sound protects the spider from other animals.

This spider is found in the coastal rain forests of northeastern South America. Two countries in which it is likely to be found are

- A. Guyana and Peru
- B. Ecuador and Colombia
- C. Venezuela and Argentina
- D. Suriname and French Guyana

On another sheet of paper, draw a spider (with eight legs) as large as the goliath bird-eating spider.





Name _____ Date _____

Activity 7

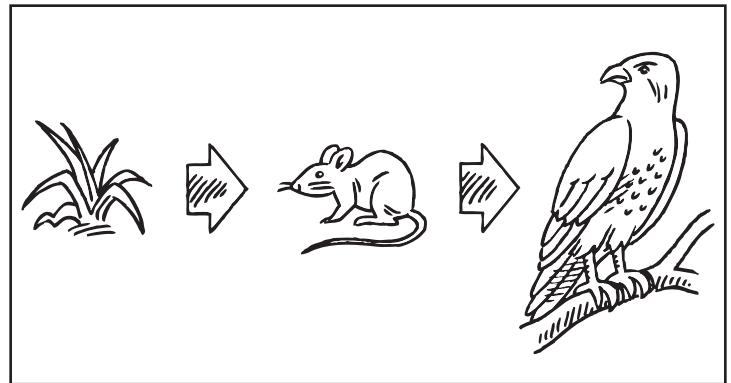
A **food chain** shows how plants and animals are connected. It shows that even though different animals eat different things, plants and animals are all connected.

The food chain helps show us that

- A. hawks only eat mice
- B. a hawk is not linked to grass
- C. hawks can eat grass if they are starving
- D. grass is important to a hawk because it eats animals that eat grass

On another sheet of paper, make two food chains of your own.

- Put yourself in one of the food chains.
- Make a food chain for a particular vegetative and climate zone (e.g., tropical rain forest, desert, polar, temperate forest, marine). Write a title for your food chain that includes the name of the zone you are describing.

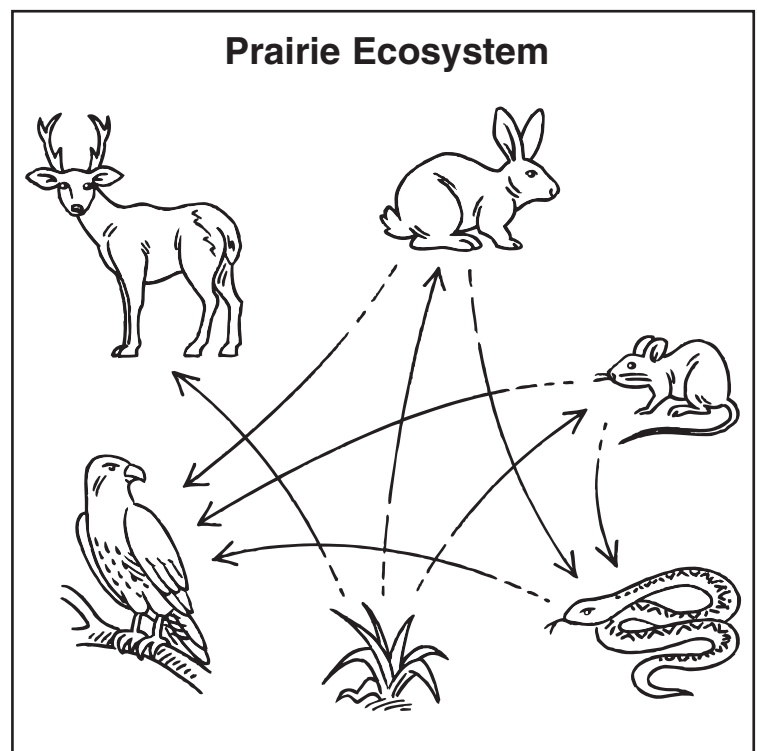


Activity 8

Sometimes food chains are linked, to make a **food web**. Food webs are another way to show how plants and animals are linked in an ecosystem. Look at the example of the simple food web for a prairie ecosystem.

Make your own food web for a tundra ecosystem. Don't worry if your web has lots of lines going all over the place! Keep these facts in mind as you make your web:

- Some insects eat grass.
- Some insects, such as mosquitoes, suck blood from caribou and people.
- Arctic hares eat grass.
- Some birds eat insects.
- Birds, such as eagles, eat fish.
- People eat hares, caribou, bears, and fish.
- Bears eat fish, berries, and grass.
- Caribou eat grass.
- Wolves eat caribou, hares, birds, and fish.





Name _____ Date _____

Activity 9

What exactly is a tropical rainforest? A tropical rainforest is sometimes called a jungle. It is close to the equator. It is warm all year and has heavy rainfall and a dense, or thick, canopy with many vines.

More species, or kinds, of plants live in tropical rain forest biomes than in any other biome. We get many of our medicines from rainforest plants and many of our foods come from rain forests. For example, we get some of our sugar from rainforest plants in India. There are still many jungle plants and animals we know nothing or little about.

What is not true about a tropical rainforest?

- | | |
|---------------------------------------|---|
| A. It has a dense canopy. | C. It is warmer than any other biome. |
| B. It is close to the equator. | D. It has more plant species than any other biome. |

Today, we get a lot of sugar from sugar cane grown in the West Indies.

Find the West Indies on the map. Draw a line from India to the West Indies.

Name three islands that belong to the West Indies. _____



Activity 10

The sad fact is that tropical rainforests are being destroyed faster than any other biome. Trees are being harvested for lumber and land is being cleared for cattle. This ecosystem is being destroyed.

Write *true* or *false* next to each statement below.

- _____ Tropical rainforests are being destroyed more slowly than any other biome.
- _____ The ecosystem of the tropical rainforests is not affected when trees are cut down.
- _____ An ecosystem, such as a tropical rainforest, can be destroyed by human actions.

Think about where you live. Was the land once forested? If it was, how has it changed?



Name _____ Date _____

Activity 11

There used to be billions of birds that lived in eastern North America. There were so many of one type of bird that the migrating flocks darkened the sky for days. By 1914, they were **extinct**, which means that they no longer exist and there are no more of its kind left. What kind of bird was it, and what happened to it?

The bird was the passenger pigeon. People began to kill millions of them every year and ship the bodies for meat to city markets by railway carloads. By 1870, the species began to disappear. It became extinct on September 1, 1914, the day when the last passenger pigeon died in a zoo in Cincinnati, Ohio.

How did railroads help the passenger pigeon go extinct?

- A. It was a way for people to follow the migrating birds.
- B. It was a way to send pigeons quickly to far-away markets.
- C. The railway that went through Cincinnati did not stop close to the zoo.

Find Cincinnati, Ohio, on the map. What direction is this location relative to you? _____

About how far is this location from you? _____

Is there at least one state between you and Ohio? If so, name it/them. _____



Activity 12

The passenger pigeon did little damage to crops. Still, it was killed in great numbers for a quick profit. People wanted to make money quickly, so they killed as many birds as they could to sell. The end result was the extinction of the species. Today, people try to conserve, or save, different plant and animal species.

One park in Wisconsin has a monument to the passenger pigeon. The words on the monument say:

“This species became extinct through the avarice and thoughtlessness of man.”

Do you agree or disagree? Write three sentences explaining why or why not. (Hint: *Avarice* means “greed.”) _____

Find and label Wisconsin on the map. Which state is SW of Wisconsin? _____

Which river and two Great Lakes border Wisconsin? _____
