

ROZZY READERS

**SPELEOLOGISTS (CAVE SPECIALISTS):
MAMMOTH CAVE NATIONAL PARK
3-5**

Section 1:

Speleologists (Cave Scientists)

Speleologist



A scientist who explores caves. They study the animals, rocks, fossils, and water that are in the caves. They are also known as cave scientists.

National Parks



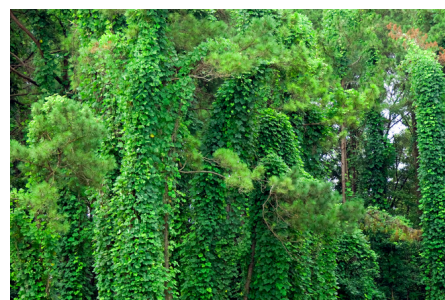
National parks are parks in the United States that have been created by the government. The government created national parks so that it could keep the plants and animals that live there safe.

Mammoth Cave National Park



A national park located in the state of Kentucky that is famous for having the world's longest known cave system.

Nonnative Plants



National parks are parks in the United States that have been created by the government. The government created national parks so that it could keep the plants and animals that live there safe.

Native Plants



Plants that usually grow in an area and do not harm the ecosystem.

Career Highlight:

Speleologist

Speleologists are scientists who explore and study caves. They are often called cave scientists.

These scientists study things such as how the caves form, the animals that live there, and the fossils that are found.

Responsibilities include:

- Gather information about the cave, such as the temperature and humidity, and note if there are any changes to the cave.
- Make sure that visitors are not harming the cave when visiting.
- Map the caves.

Education required:

To become a speleologist you need a bachelors degree in a similar topic such as Geology, Geosciences, Mineralogy, or Paleontology



Content Check:

Speleologist

Answer the questions below about speleologists using complete sentences.

1. What does a speleologist study?

2. What are two responsibilities that a speleologist might have?

3. Do you think you would enjoy being a speleologist? Why or why not?

Section 2:

Mammoth Cave National Park

Imagine that you just got a job as a speleologist at Mammoth Cave National Park. Learn about Mammoth Cave National Park and the animals and plants who live there to prepare yourself for your new role!

Learn: Mammoth Cave National Park

LOCATION:

Mammoth Cave National Park is a national park located in the state of Kentucky.



QUICK FACTS:

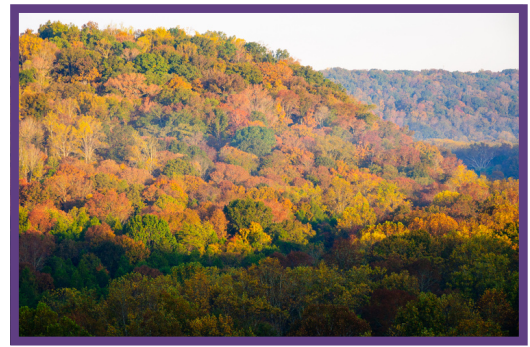
Mammoth Cave National Park became a national park in 1941.

On September 9, 1972 it was discovered that Mammoth Cave is the world's longest cave system. It was named a national park to protect the caves and the area surrounding them.

It is known that Mammoth Cave is at least 412 miles long, but there is evidence that it could be up to 1,000 miles long!



Inside Mammoth Cave



Trees in Mammoth Cave National Park

HISTORY:

- Between 5,000-2,000 BCE Native Americans explored and mined Mammoth Cave for minerals.
- It is believed that in 1790 John Houchin was the first European settler to discover the cave.
- From 1813 to 1814 enslaved African Americans were forced to mine saltpeter. The saltpeter was used to make gunpowder that was needed by the American military.



Cave art from long ago can still be seen on cave walls today.

- In 1815 the mining is stopped and a man named Nahum Ward explores Mammoth Cave. He created a new cave map and wrote a long description of the cave. His writings made the cave famous.
- Mammoth Cave soon became a tourist destination. The first known tour of the cave was in 1816.
- Many of the first tour guides were enslaved African Americans.
- Stephen Bishop is one of the most popular tour guides of Mammoth Cave. He was an enslaved African American when he began giving tours. He gave his first tour in 1838 and is known for being the first person to cross the Bottomless Pit and discovering eyeless fish.
- In 1856 Stephen Bishop was given his freedom, but continued to work as a tour guide at the cave. Many of the cave's passages were named by Stephen and his signature can still be seen on the cave walls today.
- In 1941 The National Park Service made Mammoth Cave a national park.



Mat and Nick Bransford near the entrance to Mammoth Cave. They were both African American slaves and two of the first tour guides of Mammoth Cave.

PLANTS

Mammoth Cave National Park has more than 1,300 plant species that grow on the land surrounding the cave. Of those, 25 of them have been listed as Endangered, Threatened, or of Special Concern. There are many nonnative plants that harm native plants in the area. Nonnative plants are plants that do not usually grow in an area. Nonnative plants can take over the soil and stop native plants from growing.

Eastern red cedar and Virginia pine are popular native trees in the area.



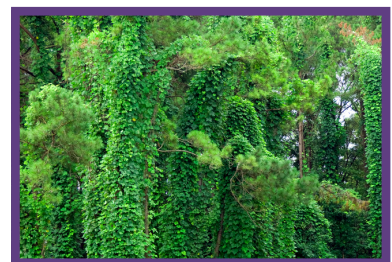
Eastern Red Cedar

Cumberland rosemary, American chaffseed, and white-haired goldenrod are a few native plants that are endangered.



White-Haired Goldenrod

Honeysuckle, garlic mustard, and kudzu are examples of invasive nonnative species.



Nonnative Species: Kudzu

ANIMALS:

Animals that live in caves are called troglofauna. These animals have adapted so that they are able to live in the dark caves. Animals that live in caves can be split into three groups. Read about them below!

Trogloxene: These animals spend most of their time outside and use the cave for roosting, shelter, or hibernation. A few examples of animals who are trogloxene are bats, cave salamanders, birds, raccoons, and pack rats.



Cave Salamander



Raccoons



Pack Rats

Troglophile: These animals live in the cave, but are also able to live above ground. Some troglophiles have special adaptations, or traits, for living in caves. Example troglophiles are earthworms, beetles, the sculpin, and cave crickets.



Earthworm



Cave Crickets



Beetle

Troglobite: These animals spend their entire life inside the cave. Examples of troglobites include cave millipedes, Kentucky cave shrimp, blind cave fish, and blind salamanders. Troglobites adapt in order to live in the caves. Adaptions are changes to the animals body or behavior that help it to survive. Because these animals see little sunlight many have no pigment and are eyeless.



Millipedes



Kentucky Cave Shrimp



Blind Salamanders

VISITING TODAY

Today, people visit Mammoth Cave National Park to see the world's longest known cave system! Visitors can still see artifacts, such as woven fiber sandals, gourd bowls, and prehistoric cave art on the underground routes that Native Americans used for mining.

In addition to touring the cave, many visitors come to Mammoth Cave National Park to do outdoor activities such as hiking, camping, biking, and horseback riding.



Content Check:

Mammoth Cave National Park

Answer the questions below in complete sentences.

1. Write a significant event that happened in the history of Mammoth Cave during each year listed below.

1813 to 1814:

1816:

1838:

1941:

2. Animals that live in caves are called troglafauna. These animals can be separated into the three groups listed below. Write at least one animal that belongs to each group.

Trogloxene:

Troglophile:

Troglobite:

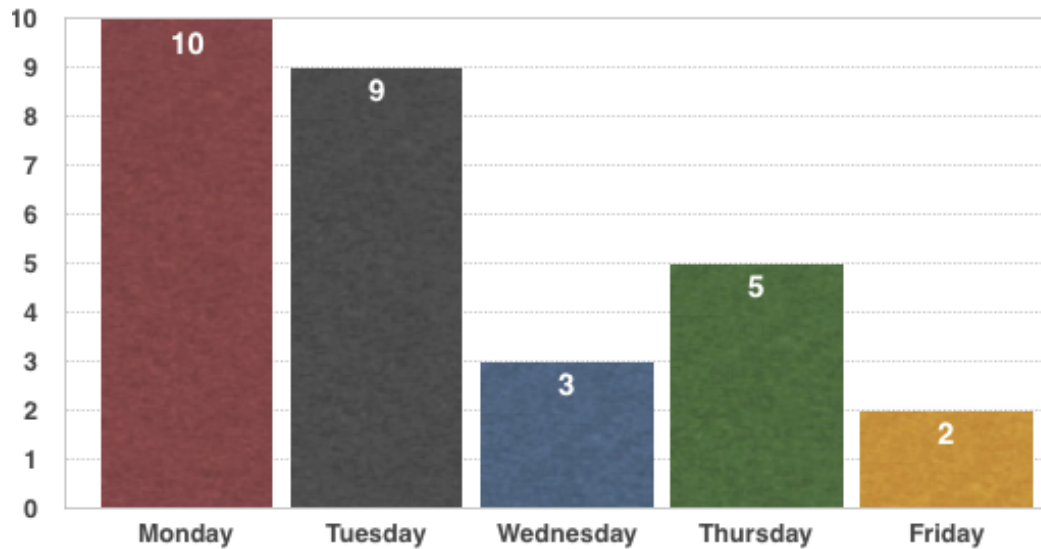
Section 3:

Math Practice-Reading a Bar Graph and Multiplication

Speleologists study how caves form, the animals that live there, and the fossils that are found. Imagine that you are a speleologist for Mammoth Cave National Park. You and your coworker Gabe are keeping track of how many blind salamanders you see in the cave every day for five days. Use the data you gathered below to answer the questions.

You kept track of how many blind salamanders you saw for five days and used the data to make the graph on the next page. Use the graph to help you find out how many blind salamanders your partner Gabe saw each day. Use scratch paper to find your answers.

Your Salamander Spottings



Monday: Gabe saw half as many salamanders than you.

He saw _____ salamanders on Monday.

Tuesday: Gabe saw the same amount of salamanders as you.

He saw _____ salamanders on Tuesday.

Wednesday: Gabe saw three times as many salamanders as you.

He saw _____ salamanders on Wednesday.

Thursday: Gabe saw two fewer salamanders than you.

He saw _____ salamanders on Thursday.

Friday: Gabe saw four times as many salamanders as you.

He saw _____ salamanders on Friday.

Section 4:

ELA Practice-Parts of Speech

Speleologists often keep notes about what they see in the caves. You will use different parts of speech to describe an animal that you may see in Mammoth Cave National Park.

Start by reviewing the different parts of speech below.

Noun

The name of a person, place, thing, or idea.

Examples:

Sara Dog

School Love



I read a **book** yesterday.

Tammy went back to **school** on Monday.

Verb

Shows action or being.

Examples:

Run Clean

Talk Throw



I **ran** to school.

Kayleigh is going to **kick** the ball.

Adjective

Describes a noun.

Examples:

Big Yellow

Loud Clean



The truck is **big** and **yellow**.

The cake was **pretty** and
yummy.

Adverb

Describes a verb. Usually tells
how, when and where.

Examples:

Quickly Quietly

Carefully Incredibly



Caleb **carefully** walked across
the room.

The girl was **quietly** reading.

Imagine that you are a speleologist at Mammoth Cave National Park. Every time you see an animal that you haven't before you record it in your journal. You make sure to use different parts of speech when you write. Look at each animal below. Then, choose which animal you want to write about in your journal. Write your animal choice on the line at the bottom of the page.



Cave Salamander



Cave Crayfish



Indiana Bat

Animal Choice: _____

You will now answer questions about your animal to help you plan your journal entry. Look at the example below. Then, answer the questions below about the animal you chose.

1. Write at least three adjectives to describe your animal.

Furry, Spotted, Yellow, Black

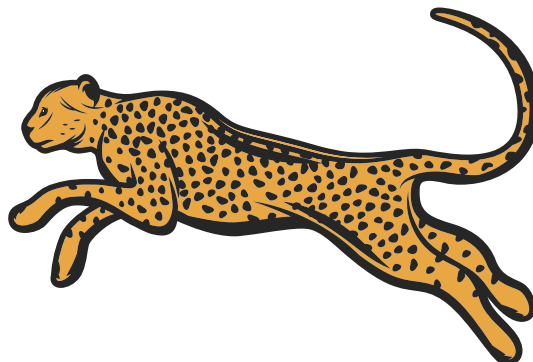
2. What verb would you use to describe how your animal moves around?

Walk or run

3. Write at least one adverb that describes how your animal move around.

Quickly runs

Swiftly walks



Answer the questions below about the animal you chose to write a report on. Then, write about your animal on the next page.

1. Write at least three adjectives to describe your animal.
2. What verb would you use to describe how your animal moves around?
3. Write at least one adverb that describes how your animal move around.

Write about your animal in the box below. Remember to include the parts of speech you planned on the last slide. Your report should have at least five sentences.