

Interactive Reading Guide #2

Student Copy



CAVES AND KARST

(To compliment the NPS Views Caves and Karst Knowledge Center)

[Enter the knowledge center by clicking on the “Explore Caves and Karst” link.](#)

Introduction to Caves

Hearing the word “caves” can bring about a variety of responses. Some people associate caves with a feeling of being trapped and lost, while others fear them because they are home to bats and other creatures of the dark. Yet, there are many people in this world that love caves for the sense of adventure and exploration that they provide.

Whatever your feelings of caves is, there is no denying their importance as unique environments that are warehouses for unique species, important geological resources, and irreplaceable artifacts.

The best way to learn what caves have to offer is to explore them, and the best way to start exploring caves is to start from the beginning. Let’s start with some important definitions and concepts about caves and karst:

[Click on the link to Cave Basics](#)

1. How does the Federal Cave Resource Protection Act of 1988 define a cave?

2. True or False: Caves can be filled with air, but not water. Circle one: True False
3. What are 4 things that can be housed within a cave?
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What is karst?

Karst is a type of topography. If we think of topography as the different features in a landscape, then karst landscapes are characterized as being formed on limestone, gypsum, and other types of rocks that dissolve in natural acid.

Guadalupe Mountains National Park - NPS Photo



[Click on the link to Karst Basics](#)

1. What type of topography does karst describe? What happens to streams in karstic areas?

2. Name 5 surface features that are found in regions with karst:

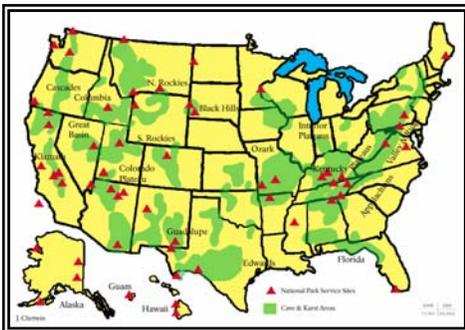
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3. Name 3 components of a drainage network:

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NPS Map - Cave and Karst Locations in the USA

Where are Caves and Karst?

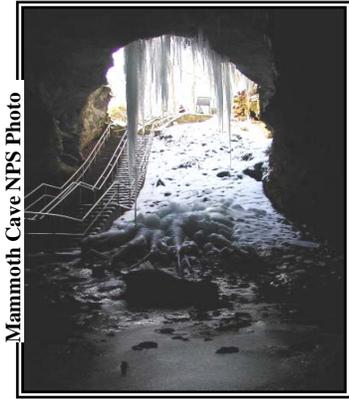


Now that you know the cave and karst basics, let's learn about where they are found.

Karst landscapes are found just about everywhere on Earth: frigid tundra, dry deserts, and tropical jungles. Warm, humid areas promote the erosion of rocks and form caves, while the sulfuric acid of arid regions also can form caves.

[Click on the link to Cave and Karst Locations](#)

1. What portion of the landscapes in the United States is karstic? _____



Mammoth Cave NPS Photo

Types of Caves

There are many different types of caves that can form in many different types of locations: there are long caves, deep caves, caves that form in the desert and caves that form near the sea.

[Click on the link to Types of Caves](#)

1. What is the longest cave? _____
 2. Where is the longest cave located? _____
 3. How many types of caves are there? _____
- (Hint: you have to click on the “next->” link)

What Processes Form Caves and Karst?

[Click on the link to Cave and Karst Formation](#)

(Use the links to the glossary to fill in the following blanks)

Caves are typically formed in rocks through processes like *dissolution* and *carbonation*. *Dissolution* is the act or process of _____. If an area is warm and humid, dissolution increases the rate of erosion and cave formation. Carbonate rocks are those that primarily consist of _____ minerals. Specifically, carbonate rocks are _____ rocks, and go through a process called “*carbonation*”.

Carbonation is an activity of chemical _____. It is a _____ reaction of carbonic acid in rainwater, soilwater, and groundwater, with _____. *Carbonation* most strongly affects carbonate minerals and rocks, such as _____ and _____.

Inside a Cave

[Click on the "Inside a Cave" link](#)

Carlsbad Caverns National Park – NPS Photo



What do you see when you step into a cave? What do you hear? If you are near the entrance of the cave you may see bats flying in and out. You may also hear the trickling of water as it drips down the cave walls. Although, there are times that you don't see anything at all. In fact, sometimes you don't hear anything either. Stepping inside a cave is almost like stepping into another world. The following exercises are meant to help you understand what's going on inside a cave when the lights go out.

DARKNESS

If you turn the lights out in a room, chances are your eyes will eventually adjust and you will start to see vague images of what's around you. In a cave, this may or may not be true depending on where you are. If you are near the entrance, light from outside the cave helps you to see what's around you. However, if you are in the DARKZONE, light from the outside doesn't reach you and you are in complete darkness.

- Is the following statement true or false? Circle one: TRUE or FALSE

If you are in the darkzone of a cave, your eyes will eventually adjust to the blackness and you will be able to see your hand if your hold it up close to your face.

- What are 3 reasons these worlds without sunlight are important?

- 1.
- 2.
- 3.

SILENCE

In general, what kinds of sounds are heard in caves? _____

What is an example of a sound you may hear in a cave? _____

TEMPERATURE

The daily and seasonal fluctuations that we experience on the surface of the Earth are not seen inside a cave. This is because any change in temperature on the surface fades as heat passes through the bedrock and into the caves.

- As a result, cave temperatures are approximately equal to:

Based on this information above, answer the following questions:

- During SUMMER, are caves **warmer** or **cooler** than the outside temperature? _____
- During WINTER, are caves **warmer** or **cooler** than the outside temperature? _____

RELATIVE HUMIDITY

Timpanogogs Cave National Monument – NPS Photo



Name 3 things that seeping water moistens in a cave:

- 1.
- 2.
- 3.

- What is responsible for allowing the inner part of a cave to maintain its high humidity?
- Why is the humidity at the cave entrances relatively lower than the humidity found in the interior portions of the cave?

AIR CURRENTS

The air in most caves is constantly in motion, and at times these air currents can blow up and out of the cave. This is how some caves were discovered, like *Wind Cave* in South Dakota and *Lechuguilla Cave* in Carlsbad Caverns National Park, New Mexico.



Carlsbad Caverns National Park - NPS Photo

- What is the exchange of air between a cave and the surface a function of?
- The air inside a cave is constantly in motion because it is constantly adjusting itself to what?
- If a cave has extremely strong air currents, what does it probably have 2 of?
- What is the difference between a blowing cave and a breathing cave?