

Always be sure to check out the **Safety Activity Checkpoints** for “Caving” online at www.girlscoutstoday.org before planning your cave expedition!

*This patch is for Juniors, Cadettes, Seniors and Ambassadors



CAVE EXPLORER

Calling all adventure seekers! Enjoy the world of caving. Come along and learn about caves as a natural wonder, how to appreciate them as a habitat, and then stretch yourself as you explore!

Steps

1. Safety First
2. How They Form
3. Cave Plants and Animals
4. Human Impact
5. Plan a Trip

Purpose

When I've earned this patch, I'll know different types of caves and how they are formed, as well as how to keep both myself and the ecosystem safe.



WHAT TO TAKE

Basic Gear:

- ◆ Sturdy boots with ankle protection
- ◆ Warm, rubber gloves
- ◆ Nonperishable, high-energy food and snacks
 - ◆ Water

Specialized Gear:

- ◆ Knee and elbow pads
- ◆ Water-resistant “wet” socks
- ◆ Belt and harness
 - ◆ Compass
 - ◆ Safety helmet
 - ◆ Light source

STEP 1 SAFETY FIRST

Caving is a popular, but sometimes demanding, outdoor sport. It shares many skills and articles of equipment with rock climbing, but going underground is a unique environment with its own special considerations.

CHOICES—DO ONE:

EQUIP YOURSELF. Find out what equipment you may need to explore caves safely. Make up a fun game that will help you be able to remember the name of each piece of equipment and its proper use.

OR

MEET AN EXPERT. Talk to an experienced spelunker. Ask them what they do to prepare for a cave exploration or what precautions they take to keep themselves safe while still having fun. What do they recommend as a way to keep others safe?

OR

VISIT A STORE. Go to an outdoor store, or any store, that would carry spelunking equipment. Talk to them about essential equipment and how to safely use the equipment in the caves.



STEP 2 HOW THEY FORM

There are many types of caves and different ways that they are formed. Learn them all and find out what is the most interesting!

CHOICES—DO ONE:

MAKE A MODEL. Create your own cave out of items such as clay, playdough, or even bread dough. Get creative and see what you come up with!

OR

CAVE FORMATIONS. Learn all about cave formations. With the permission of an adult, get online and do some research on different cave formations and how the weather can effect those. Draw some of the ones that you find online, or draw some that you'd like to see.

OR

COMPARE THREE. From the research you've done on cave formations, compare and contrast three of them that you've found. Compare their shape, color, way of formation and so much more. Then get together with your friends and share what you learned.

CAN YOU GUESS WHAT THESE FORMATIONS LOOK LIKE JUST BASED ON THEIR NAME?

Cave Popcorn

Draperies

Stalagmite

Soda Straws

Pool Spar

Flowstone

Cave Bacon

Helictites

Stalactities

Shelfstone

Column

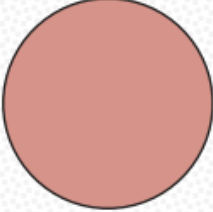
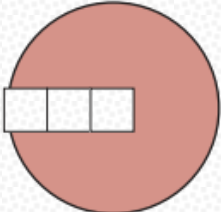
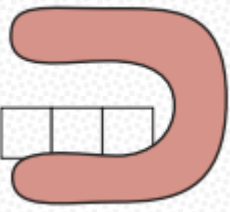

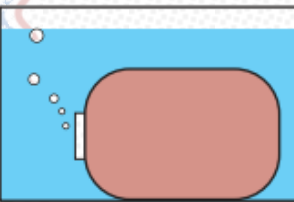
Cave Pearls



CREATE A CAVE

Materials Needed:

Clay
Sugar Cubes
Warm water

	Flatten the clay into a round, pancake shape.
	Place the sugar cubes on top of the clay, all touching each other. Make sure one of the cubes extends beyond the edge of the clay.
	Wrap the clay around the sugar cubes...
	...Forming a ball. Make sure at least one sugar cube is exposed.
	When the ball of clay is placed in water, the sugar cube will dissolve, leaving a "limestone cave" behind.

STEP 3 CAVE PLANTS AND ANIMALS

Studying cave life includes the plant and animals that are found in a cave. It is also very important to learn about their habitats.

CHOICES—DO ONE:

PROFILE PLANTS. Make a list of ten plants and animals that rely on caves in order to survive. Then do some research and identify the type of cave and habitat for each.

OR

DRAW A BIOME. Create your very own cave biome. What animals and plants would you put in it? Get creative, but stay realistic.

OR

FIND OUT HOW. How do plants and animals survive in the dark? Find out with the activity "Are You My Mother?"

Are You My Mother?

Discuss how bat mothers use scent and sound to identify their babies. Then, select half of the girls to be the mothers and the other half to be the babies. Give each pair a scented cotton ball and a distinctive sound to use. Blindfold the mothers and have the students rely on the scent and sound elements to find each other. Can they do it?

STEP

4

HUMAN IMPACT

Humans can have a large impact on the health of cave ecosystems. Let's learn how to minimize these effects!

CHOICES—DO ONE:

INVITE A CONSERVATIONIST. Hear from an expert and meet with a conservationist. These are scientists who work in the field of conserving biology and the Earth. Learn a few tips that they have about how to minimize human impact.

OR

WHITE NOSE SYNDROME. The fungus that causes White Nose Syndrome, named *Geomyces destructans*, is somewhat new to science. It causes bats to wake early from hibernation, depleting fat storage, which is needed to help them survive the winter. This causes them to starve or freeze to death. Learn how this fungus is spread and what we can do to help.

OR

HOW WE EFFECT CAVES. Do some research or talk to the experts and find out how humans are affecting cave ecosystems. Did you know that lint from clothes serves as a food source of molds, fungi and bacteria leading them to grow more and more? Now go find some more fun facts!



STEP 5 PLAN A TRIP

Now that you've learned all about caves, it's time to explore them yourself. Plan a trip and you will be well on your way!

CHOICES—DO ONE:

TRAVEL WITHIN THE COUNCIL. Identify caves within the boundaries of the Girl Scouts of Eastern Iowa and Western Illinois council and plan a trip with your friends, family or Girl Scout troop/group. Don't forget to pack all of the right gear!

OR

TRAVEL VIRTUALLY. Take a virtual trip online to visit caves. Look at pictures, watch videos and pretend like you are there. Or get creative and make your own caves out of cardboard boxes and make your way through them.

OR

TRAVEL WITH YOUR TV. Watch a movie or a TV show based on caving. Some great examples are "Journey into Amazing Caves" or "Planet Earth's Final Frontier: Caves."



IMPORTANT LINKS:

National Caves Association:
www.cavern.com

National Speleological Society:
www.caves.org

Journey into Amazing Caves:
www.amazingcaves.com

White Nose Syndrome
www.whitenosesyndrome.org

Virtual Cave Tours
www.caves.org/committee/education/virtual_cave_tours.htm

NPS Teacher's Guide to Caves & Groundwater
<http://www.nps.gov/ozar/forteachers/skin-deep.htm>