



Junior Ranger Activity Book

*What did you see while you
were at Capulin Volcano?
Draw it on the cover.*

This book belongs to: _____

Discovering Capulin

Welcome to Capulin Volcano National Monument!

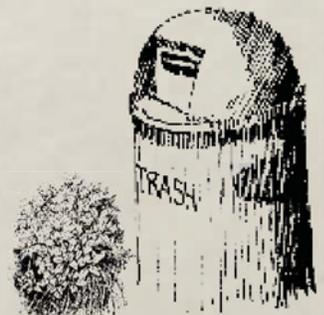
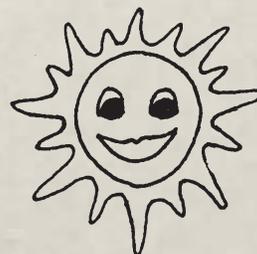


Here you can peer at 60,000 year old rocks spewed from the center of a volcano, search for deer, elk, lizards, and birds, and gaze at the 360° view of the surrounding area as you hike the Crater Rim Trail. From top to bottom, opportunities abound to explore Capulin Volcano.

Before you start your Junior Ranger activities, read our Ranger Rules for visiting Capulin Volcano National Monument. These are important for helping to preserve Capulin and protect its natural resources. In doing this, everyone can enjoy the volcano, including future generations.

Ranger Rules:

1. Always stay on the trails and don't climb on rocks or railings.
2. Don't touch or feed any of the animals.
3. You can pick up rocks to look at them, but remember to put them back before you leave.
4. Make sure to throw away all trash in the trash cans.
5. Don't pick any of the wildflowers.
6. Lastly, remember to protect yourself by wearing sunscreen and drinking plenty of water!



Junior Ranger Guide

People of all ages can become Junior Rangers at national park sites all over the country.

Junior Rangers have 3 main jobs:

EXPLORE, LEARN, PROTECT

As a Junior Ranger at Capulin Volcano, your mission will be to explore and learn about the park, as well as help to protect it.



Here's what to do in order to become an official Junior Ranger at Capulin Volcano National Monument:

6 to 10

Complete 4 activities

11 and up

Complete 6 activities

In addition, choose at least one of the activities below:

Flat Hat Chat

Ranger Program

Watch the movie



easier activities



harder activities

Once you are done, show your book to a Ranger and they will give you your official Junior Ranger badge and certificate. Good luck!

Building a Volcano

A volcano is a place on the Earth's crust where magma and gases have escaped from deep below the surface and caused an eruption. There are three main types of volcanoes, each with their own differences. Match each of the descriptions to the correct picture and then think about Capulin. Can you figure out what type of volcano you're visiting?



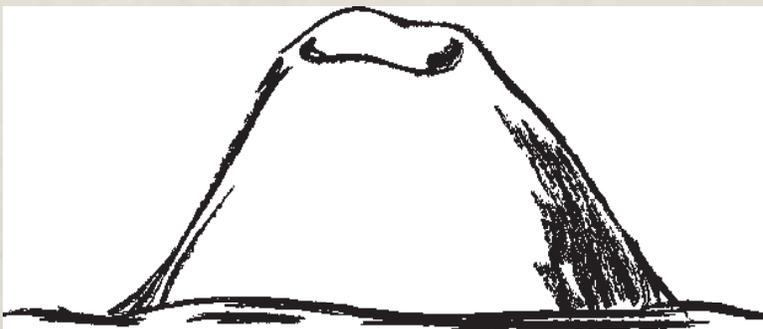
Cinder Cone

- small with steep sides
- usually only erupts once from one vent
- typically has a crater because lava builds up on the sides



Composite Cone (Stratovolcano)

- tall with steep sides
- multiple explosive eruptions from more than one vent
- can build up to form a peak



Shield Volcano

- can be very large
- gentle slopes
- made up of many lava flows from non-explosive eruptions

Capulin is a _____

You're the Geologist



A **geologist** is someone who studies the Earth and processes that shape it. Since humans were not around during the eruption of Capulin, geologists use clues, such as rocks, to determine the type of volcano and lava.

As a geologist, it is important to observe and record information about the rocks. Find a rock outside or at the touch table in the Visitor Center and record your observations about it. Remember to put your rock back before you leave!

Is it bigger or smaller than your fist? _____

What color is it? _____

Does it have holes? _____

Is it light or heavy? _____

Then look at the rock display in the Visitor Center. What kind of rock do you think you were looking at?



Draw your rock.



Where do volcanic rocks come from?

Deep inside the earth there is liquid rock called magma. When there is enough pressure and gasses for the magma to rise, it will erupt through a vent, or crack in the Earth's surface. Once it has reached the surface it is called lava. Then when the lava cools, it is known as a rock.

Try it at home: Make your own lava lamp!

Ingredients:

- water bottle
- water
- cooking oil (such as vegetable)
- food coloring
- Alka Seltzer



Instructions:

1. Fill an empty water bottle 1/2 way with water.
2. Drop a few drops of food coloring until the water is the color you want it.
3. Fill the rest with unused oil and leave about an inch of space at the top.
4. Drop half an Alka Seltzer in and watch as the bubbles rise!

Mystery Scramble



Capulin Volcano National Monument is part of an 8,000 square mile volcanic field that covers parts of New Mexico, Colorado, and Oklahoma. This area is unique and has its own vocabulary of scientific words. Use the rhymes to unscramble the mystery words that the rangers use when talking about the field. Then, find them in the word search.

1. This is where the eruption begins, creating volcanoes where nothing had been.

_____ NTEV

2. When the volcano decided to blow, it threw out lava full of holes.

_____ ORCASI

3. The Spanish word meaning "mouth," this is where lava came out.

_____ COBA

4. Clouds of this form during an eruption, causing many a disruption.

_____ HAS

5. When I erupt, I spew rock and ash like a fountain, it rains down all around to form a cone-shaped mountain.

_____ _____ NERIDC ECON

6. This lava rock is extremely tough and hard to fray, it takes a long time to wear away.

_____ ASLTBA

7. Underground I bide my time, in an eruption I break through to cover the countryside.

_____ _____ MGAAM & VAAL

8. The volcano scattered these wide and far, some as small as your fist; others the size of a car.

_____ OSMBB

9. I am the largest feature in the volcanic field, my shape reminds some of an upside-down shield.

_____ _____ REISAR RNADEG

10. A mixture of boiling rocky mush, from beneath the ground did gush.

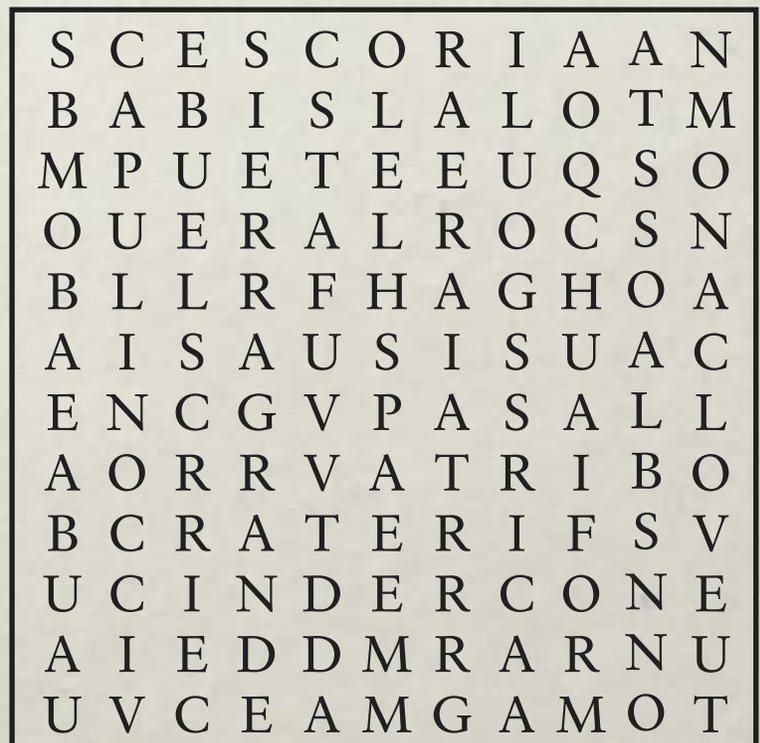
_____ EPURTOIN

11. Volcanoes erupt from a gaping hole, the depression left behind is shaped like a bowl.

_____ RCERAT

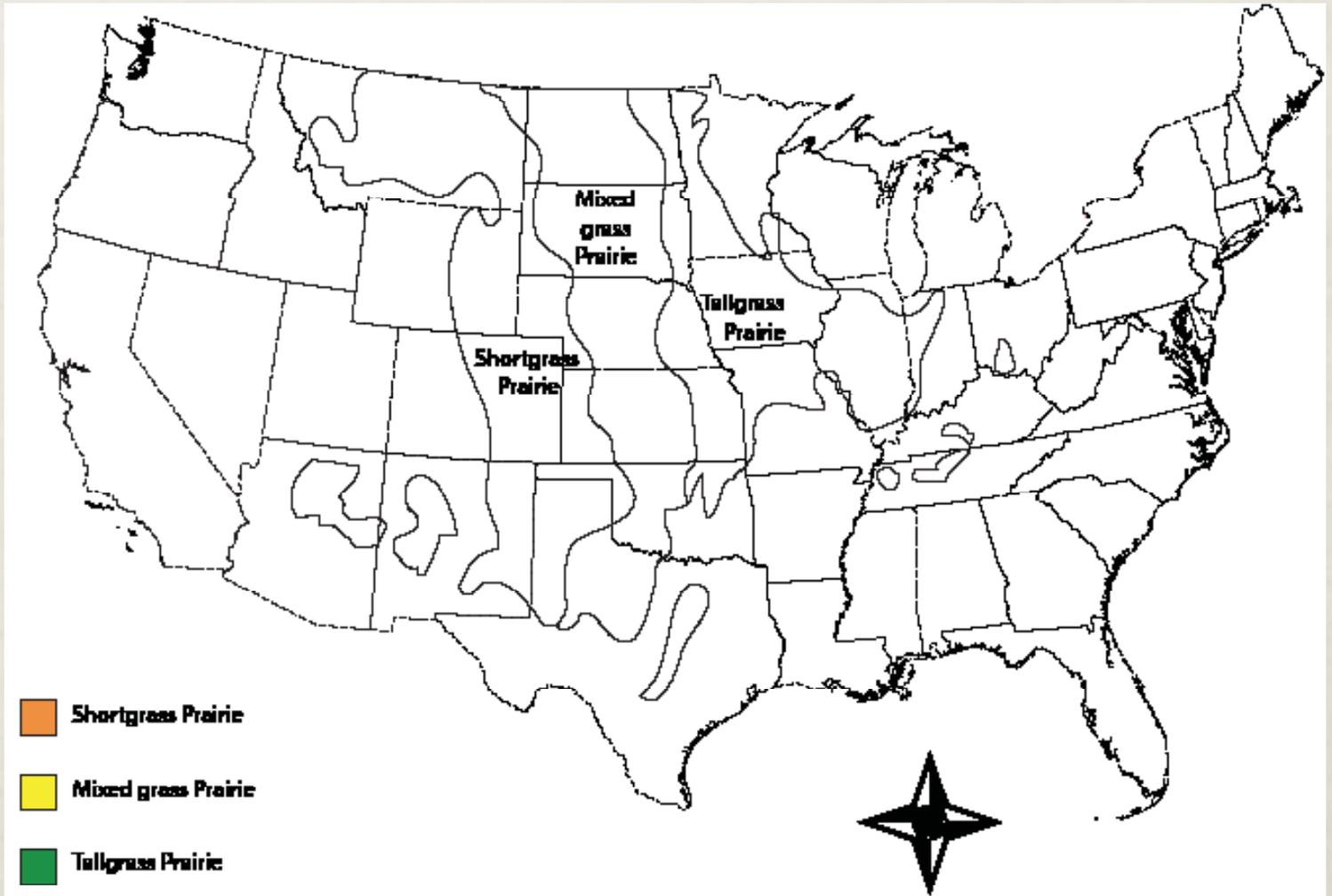
12. From the planet's crust did seep, ash, gas, and lava to form a mountainous heap.

_____ OLVANCO



Prairie Geography

Grasslands, such as the Great Plains, once covered much of central North America. A grassland is a region where grass is the main type of vegetation. In North America, grasslands are called "prairies." Three different prairies make up the Great Plains: tallgrass, mixed grass, and short grass. Short grass prairie is found here at Capulin Volcano. These grasses are shorter because they receive much less rain than the tallgrass prairie found in the eastern portion of the Great Plains. Today, the prairie is disappearing. Less than 4% of the tallgrass prairie and 20% of the shortgrass and mixed grass prairies remain. Fill in the map below using the directions in the box at the bottom of the page.



1. Color the shortgrass prairie **orange**.
2. Color the mixed grass prairie **yellow**.
3. Color the tallgrass prairie **green**.
4. Label the compass rose with north, south, east, and west.

Brain-Teaser:

How many states have grassland?

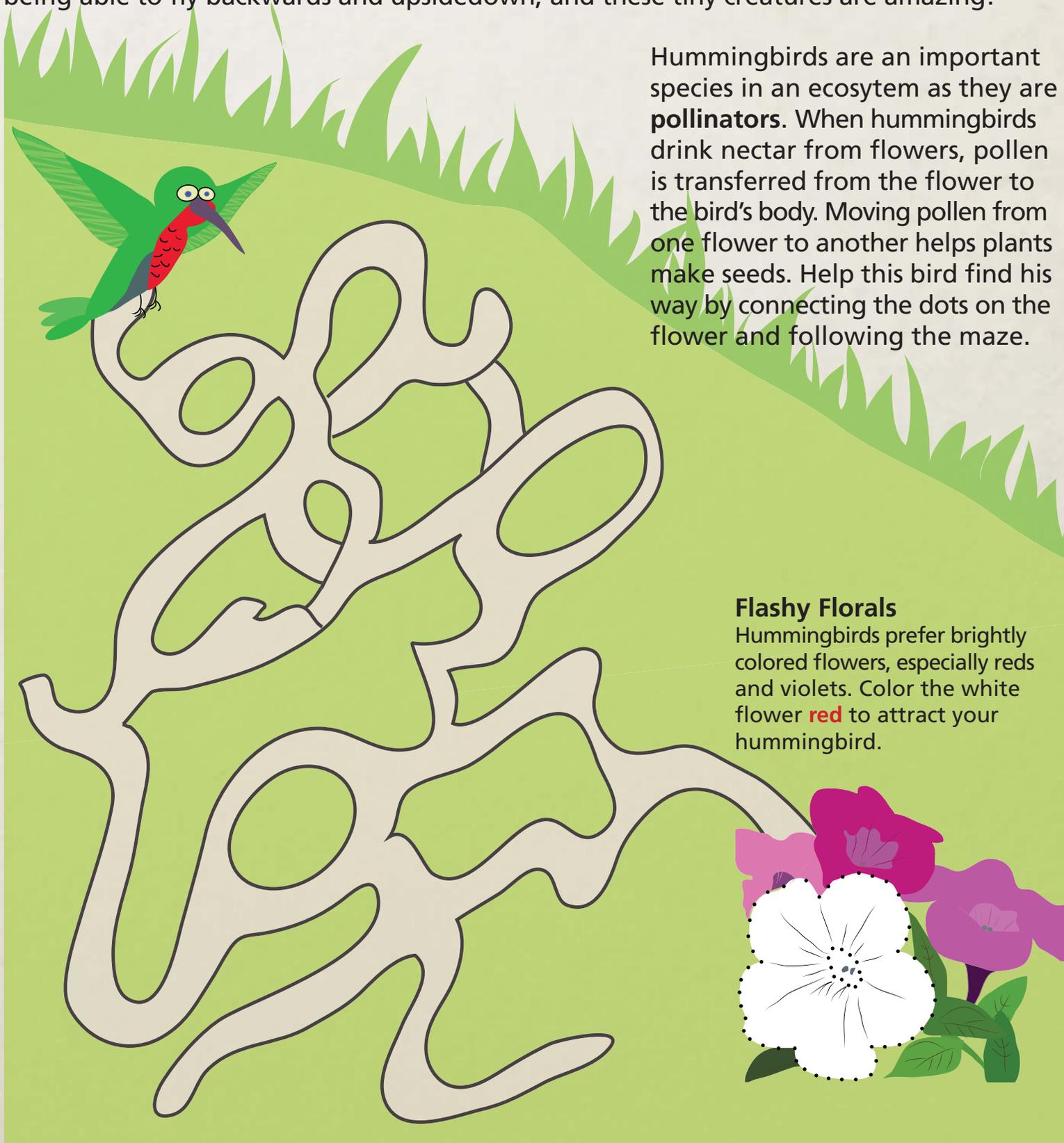
Flight of Fancy

What is three inches tall, can fly in every direction and hover in mid-air? It's not an insect. The answer is a hummingbird. While they may not be very big, these mighty fliers are known for their ability to beat their wings nearly 3,000 times per minute. Add that to being able to fly backwards and upside-down, and these tiny creatures are amazing!

Hummingbirds are an important species in an ecosystem as they are **pollinators**. When hummingbirds drink nectar from flowers, pollen is transferred from the flower to the bird's body. Moving pollen from one flower to another helps plants make seeds. Help this bird find his way by connecting the dots on the flower and following the maze.

Flashy Florals

Hummingbirds prefer brightly colored flowers, especially reds and violets. Color the white flower **red** to attract your hummingbird.



Passing Time



Capulin Volcano erupted a long time ago compared to human existence, but a relatively short time ago on the geological time scale. Look at the displays around the Visitor Center and parking lot at the top of the volcano to find out some of the history that has happened since Capulin's eruption. Put the letter for each event in the correct box for the time that it occurred.



~60,000 years ago

~8,800 years ago

1821

1866

1916

1926

today's date

A. Capulin Volcano was established as a national monument by President Woodrow Wilson.

B. Mexico declared independence from Spain, and consequently, William Becknell blazed the Santa Fe Trail.

C. Prehistoric humans were hunting and gathering in the area close to the volcano.

D. Capulin erupted and formed a cinder cone volcano.

E. Charles Goodnight and Oliver Loving partnered together and established a cattle trail from Texas to Wyoming that passed through the volcanic field.

F. You are here visiting Capulin Volcano National Monument.

G. Ancient spear points were found with bones of now extinct bison 9 miles from the volcano (present day Folsom).

Capulin's Custodians



When Capulin Volcano became a national monument, it was given a custodian. A **custodian** is someone who takes care of something and makes sure it is protected and treated well. Today these people are known as superintendents. Capulin's first custodians were Jessie Foote Jack and Homer Farr. Because of them, everyone can enjoy Capulin the way it is. Read the story below to learn more and answer the questions.

Jessie Foote Jack and her husband were ranchers in New Mexico in the early 1900's. At the time, Capulin Volcano was thought of as great land for grazing cattle. Because of this, Mrs. Jack made a request to the governor to be the custodian of Capulin. She officially received the position in 1916, and was the first woman custodian in the National Park Service. She served until 1921 and had various jobs related to the protection and management of the volcano. Some of the things she did included:

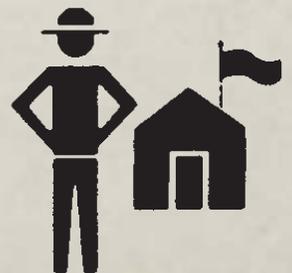
- **Patrolling** the monument
- **Preventing** people from taking wood for fires
- **Putting** up signs for the volcano around area roads
- **Recommending** a paved road up to the crater rim, as well as paved roads from Folsom to Capulin

Homer Farr then became the custodian in 1923, and he built the road to the crater. He also bought land south of the volcano and expanded the town of Capulin.

Now that you know more about what the custodians of Capulin have done, why were they important for you to be able to visit Capulin today?

Is there a geologic or historic feature near your home, or somewhere you've been, where you would want to be the custodian? How would you help protect it if you were?

Place: _____



Flat Hat Chat

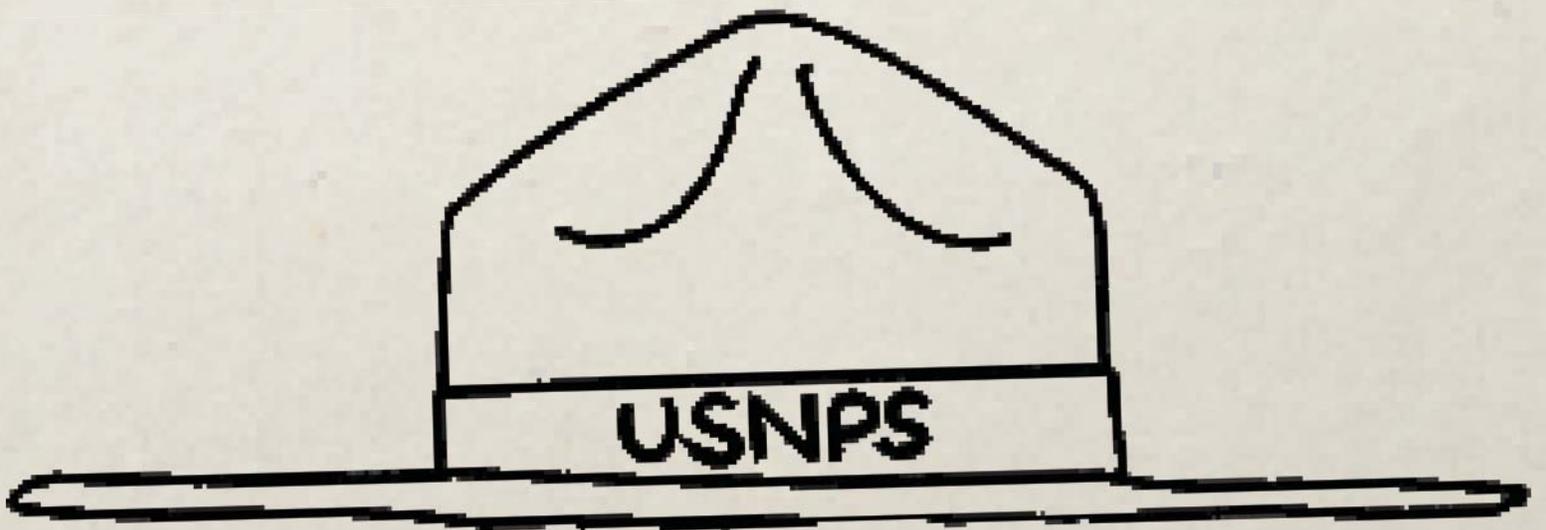
Every day, park rangers all over the nation work hard to protect national parks and help visitors. They do things such as: study plants and animals, answer questions, give tours, collect fees at entrance stations, care for buildings and roads, patrol the trails, or work at park headquarters. Each of these jobs help to fulfill the National Park Service mission. During your visit, interview one of the Capulin Volcano Park Rangers to find out what they do.

Here are a few questions to get you started.

1. What is your name? _____
2. What is your job? _____
3. What do you like best about being a park ranger? _____

Now it's your turn to create the questions! What would you like to know about park rangers? Add two questions to those above.

1. _____
2. _____



Searching the Field

Did you know? You're not just at one volcano, you are actually in a volcanic field. That means that you are surrounded by volcanoes and lava flows. This 8,000 square mile field is called the Raton-Clayton Volcanic Field and is about the size of Massachusetts! It's so big it covers parts of Oklahoma, New Mexico, and Colorado.



An advantage to being on top of a volcano is the elevation. **Elevation** is the height of a place above sea level. When you stand at a higher elevation than the surrounding land you can see more things that are farther away. Look at the signs around the rim parking lot to help you find and name the things listed below.

Elevation at the rim parking lot

Three other volcanoes

Two mesas

Southern part of the Rocky Mountains

Can you see anything else?

work space

Math Attack!

The elevation at the town of Capulin is 6,844 ft. How high above the town are you?

Vegetation Returns



Today, Capulin is home to many different plants and animals. However, when it first erupted, this was probably not the case. It takes time after a volcano erupts for plants and animals to make it their home.

Can you think of two ways seeds could find their way to Capulin and start producing more plants?

1. _____

2. _____

Go outside to look for different plants and draw them in the boxes:

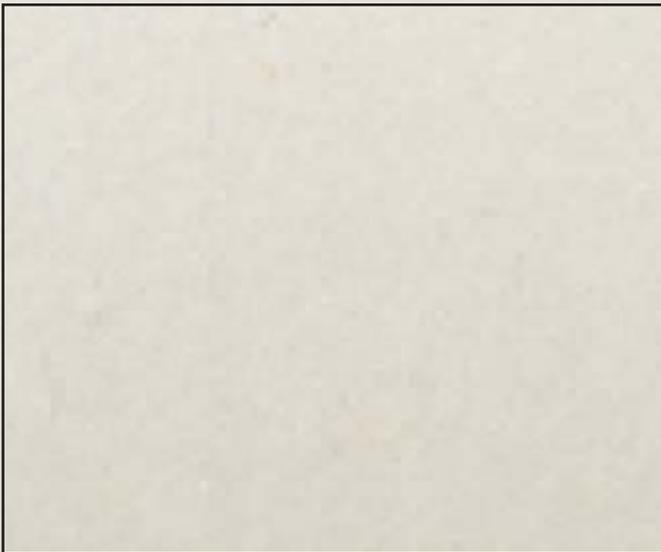
Find a tree that is taller than you.



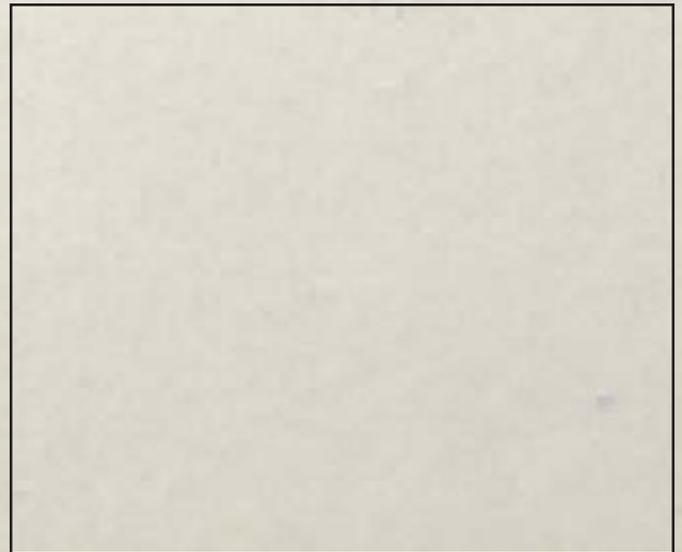
Find a plant that has spikes on it.



Find a wildflower.



Find a plant that grows on rocks.



Creatures of Capulin

An **ecosystem** is a place where different plants and animals live together. It also includes the things they interact with, like soil, air, and the sun. If you keep your eyes and ears open you can find many different types of animals living on the volcano in Capulin's ecosystem. Check off what you can see and/or hear from the list below and if you find something not on the list, draw it in!



see
 hear

bird



see
 hear

deer



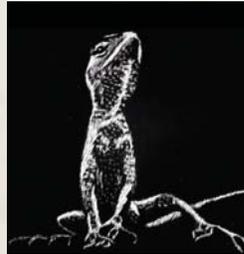
see
 hear

butterfly



see
 hear

insect



see
 hear

lizard



see
 hear

ladybug



see
 hear

turkey



see
 hear

bear



see
 hear

WATCH OUT!

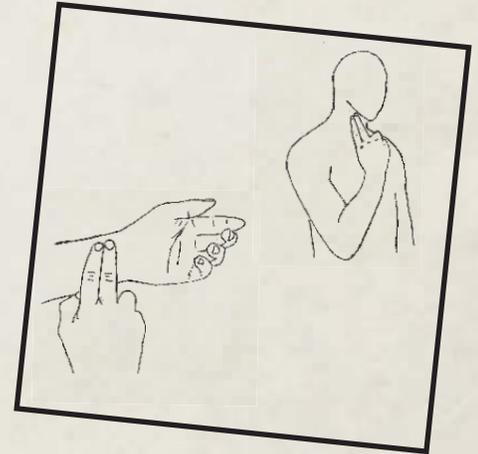
Here at Capulin, there are a few bears. While they are cool to see from a distance, it is important not to get too close. If you see one that's too close remain calm and back away. Remember, never feed or provoke them and be cautious!



Let's Get Moving

People have visited Capulin Volcano for more than one hundred years. In the early 1900s, visitors would hike up the side of the volcano to the top. Today we drive up the road, and trails are used to explore the rim. Hike the volcano rim trail to see more views and learn about the importance of exercise.

1. Before you begin your hike check your pulse rate. Use the diagrams on the right to locate your pulse points. Count how many pulses you feel in about 10 seconds. Record your results.



2. Now begin your hike. Once you get to the top of the rim, stop and check your pulse again for another 10 seconds. Did your pulse rate change? If so, how?

3. Exercise causes your heart to beat faster. We know this because our pulse rate increases. Why might your heart beat faster during exercise?

What is your pulse rate?

Your pulse is the blood surging through your blood vessels with each beat of your heart. Therefore, pulse rate lets you know how fast your heart is beating.

4. Exercise, such as hiking the rim trail, helps keep your heart and body healthy. It is important to try to be active for 60 minutes per day, which can include fun outdoor games that keep you moving, like tag or hide and seek. What activities would you like to do each day to help keep you strong and healthy?

Why is it important for your heart to beat?

The heart acts as the pump of your circulatory system. The circulatory system moves blood through the body so each cell can have food and oxygen for energy, which allows your body to move.



Bonus: Walk the Crater Vent Trail. How many steps does it take to get to the bottom?

Junior Ranger Pledge

As a Junior Ranger at Capulin,
I promise to discover all I can.
I pledge to protect and preserve
every rock, plant, and bird.
National parks are tons of fun
because they're here
for everyone.

Thank you for visiting! And remember:
EXPLORE, LEARN, PROTECT!

Become a WebRanger!

Want to keep exploring? Check out
www.nps.gov/webrangers for more
fun.



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Creatures of Capulin artwork
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Not enough time?
Mail completed books to:

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