

Lunar Ranger



BECOME A LUNAR RANGER

EXPLORE CRATERS OF THE MOON AND BEYOND!

Follow in the footsteps of the Astronauts:

In 1969, Apollo Astronauts Alan Shepherd, Eugene Cernan, Joe Engle and Edgar Mitchell visited Craters of the Moon to learn about the geology of their own backyard before venturing beyond the Earth.



Your Name

The astronauts visited Craters of the Moon for many of the same reasons that you are here today. Complete the following checklist in order to receive your own Lunar Ranger mission patch:

- “Orbit” the Monument on the 7 mile loop drive or tour the Visitor Center.**
- Complete the Safety activity on the next page**
- Look for the Earth, Moon or Star symbol next to each activity
- If you are 8 years old or younger complete 4 other activities.**
- If you are 9 years old or older complete 6 other activities.**
- When you finish report back to Mission Control (The Visitor Center) in order to receive your mission patch.**

If you don't finish your book while you are here, you can mail it to us. We'll check it and send your book back along with your patch. Mail it to:

Craters of the Moon National Monument and Preserve
P.O. Box 29
Arco, ID 83213



Safety



Safety on the Moon

Whether you are an astronaut or a Junior Ranger, there are certain things that you should always have with you for a safe journey.



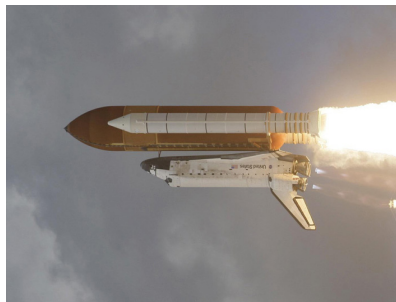
Draw a line from each object you would need to bring to have a safe trip to the Moon to the picture of the Moon. Do the same for Craters of the Moon.



Satellite picture of a crater on the Moon



Hat



Spaceship



Sunblock



Water Canteen



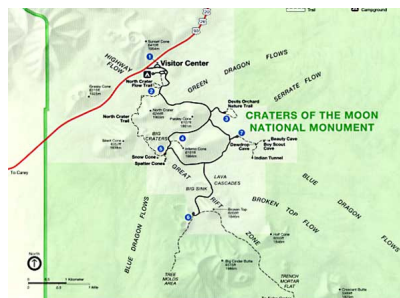
Spacesuit



Protective Footware



Picture of Craters of the Moon



Map



Flashlights

*Some items are needed for both places.

The Earth



The area appears "like the surface of the Moon as seen through a telescope"
Harold T. Stearns, USGS Geologist, 1923



Learn from an expert:

Attend a Ranger program _____

(Name of Program and Ranger's initials)



Go "Moon" walking:

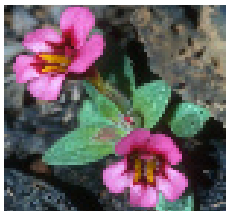
Explore any trail in the Monument and play Craters of the Moon Bingo.

Use your detective skills to look for, **but not collect**, what is pictured below. Each picture is something interesting found at Craters of the Moon.

Circle any that you see.



Mule Deer



Monkeyflower



Lava Bomb



Animal Tracks



Lava Tube



Chipmunk



Squirrel



Draw your own



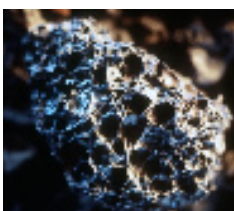
Pahoehoe



Shrub



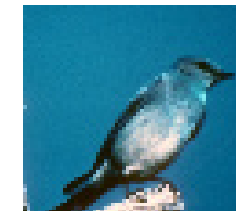
Clark's Nutcracker



Cinder



Buckwheat



Bluebird



Ranger



Leave only footprints, take only pictures and memories:

I did my best to protect this special place on planet Earth by not picking wildflowers, collecting rocks or feeding chipmunks. I also helped by staying on the trails and by putting litter in the proper place.

My signature

Parent's signature

The Moon



"The Moon has this peculiar eerie beauty, like Craters of the Moon, that is magnificent... they excite your imagination."
-Edgar Mitchell, Apollo 14 Astronaut, 1969



Ask a Ranger to show you the video "**Return to the Moon**" and answer these questions to learn the names of the Apollo 14 astronauts that visited Craters of the Moon before they journeyed to the Moon.

Circle the letter under "true" if the statement is true.

Circle the letter under "false" if the statement is not true.

Use the letters to spell the names of the Apollo 14 Astronauts.

	True	False
1. In 1969 people first walked on the Moon.	E	Q
2. Craters of the Moon is a good place to study lava flows.	J	P
3. The Moon's craters are volcanic craters.	I	O
4. Craters of the Moon is one of the best places to study geology.	D	T
5. The National Park Service is dedicated to preserving Craters of the Moon for everyone.	A	E
6. The advice given to kids in the video is to dream.	L	D
7. The more we uncover, the more questions open up to us.	N	M

___ugene Cernan
1

___ ___e Engle
2 3

E ___g___r Mitchell
4 5

A___a___ Shepard
6 7

The Moon



Secret Code:

Use the SECRET CODE to decipher what the Astronauts discovered after their journey to the Moon.

SECRET							CODE							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
A	L	S	I	N	P	V	M	C	T	R	O	U	Y	E

The Moon has no large $\frac{7}{12} \frac{2}{9} \frac{1}{5} \frac{12}{15} \frac{3}{3}$ like we have here on Earth. However,

it is covered with vast plains of $\frac{2}{1} \frac{7}{1}$ similar to what you see at Craters of the Moon.

The Moon's volcanic activity took place billions of years ago when

$\frac{8}{15} \frac{10}{15} \frac{12}{11} \frac{4}{10} \frac{15}{3}$ broke the surface allowing lava to fill the

$\frac{4}{8} \frac{6}{1} \frac{9}{10}$ craters. The volcanoes that erupted at Craters of the Moon did so only 2000

$\frac{14}{15} \frac{1}{11} \frac{3}{15} \frac{11}{13} \frac{6}{10}$ ago and are likely to $\frac{15}{11} \frac{13}{6} \frac{10}{10}$ again someday.

The craters on Earth's Moon were created by $\frac{8}{15} \frac{10}{15} \frac{12}{11} \frac{4}{10} \frac{15}{15}$ impacts.

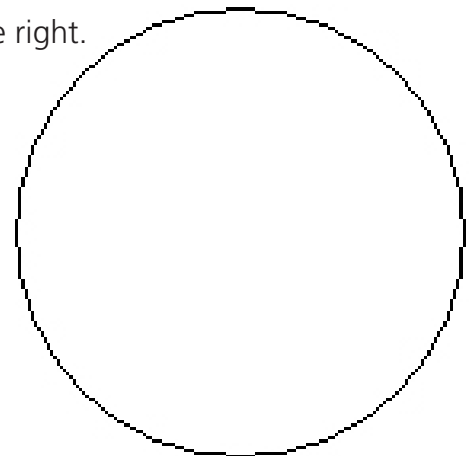
The craters at Craters of the Moon were created by $\frac{7}{12} \frac{2}{9} \frac{1}{5} \frac{12}{15} \frac{3}{3}$.



Design your own Mission Patch:

The Mission Patch for the Apollo 14 journey to the Moon was designed by the crew members and looked like the picture below.

Design your own Craters of the Moon mission patch in the space to the right.



And Beyond



"The Eastern Snake River Plain is an ideal place to observe Mars-like volcanic features..."
Scott Hughes, Geologist, Idaho State University



National Park Service (NPS) Mission:

To preserve and protect...the national park system for the enjoyment, education and inspiration of this and future generations

National Aeronautics and Space Administration (NASA) Mission:

To understand and protect our home planet...
Explore the universe and search for life...
Inspire the next generation of explorers...



List 2 things that the NPS and NASA missions have in common.



Intergalactic Parks?

There are many special places on this planet that are set aside as national parks so that we can enjoy them and take care of them. Describe a place beyond earth that you think should be preserved as a park.

I choose _____ to be the first Intergalactic Park.

Explain why it should be a park.....

Draw a picture of a Ranger at your new park.

And Beyond



Scientists have discovered volcanoes on several other planetary bodies within the Solar System including our moon, Mars, Venus and Jupiter's moon Io. Planetary geologists continue to study the volcanic features in our own backyard to better understand volcanoes on other planets. Draw a line from the images below to their matching descriptions:

Most recently active volcano at Craters of the Moon.

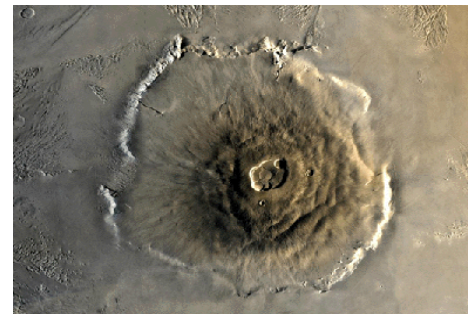
Eruptions occurred from a vent near Broken Top Cinder Cone about 2000 years ago.

Many scientists predict that Craters of the Moon will erupt again in the future.



The tallest volcano in the Solar System.

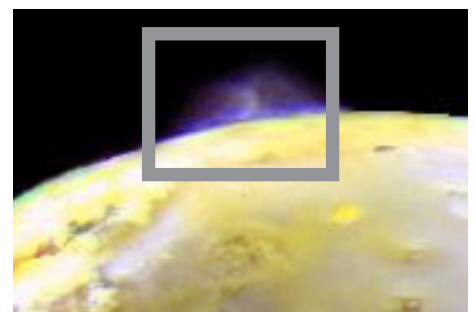
Olympus Mons towers over 72,000 feet (22,000 meters) above the surrounding Martian plains.



The most active volcanoes in the Solar System (outside of Earth). This satellite image shows a volcano erupting into space from the surface of Jupiter's moon Io.



The tallest volcano at Craters of the Moon
Big Cinder Butte is only 700 feet (218 meters) higher than the surrounding terrain.



Lunar Ranger



Craters of the Moon National
Monument and Preserve
P.O. Box 29
Arco, ID 83213



Craters of the Moon Lunar Ranger Pledge:

As a Lunar Ranger, I promise to...

- * Explore the Earth in order to reach for the stars...
- * Take care of Craters of the Moon and other special places so they will always be here for me (and future generations) to enjoy...

Name _____



For more information on Craters of the Moon National Monument and Preserve or to become a Geo-Ranger, go to WWW.NPS.GOV/CRMO

For more information on NASA, go to WWW.NASA.GOV

If you would like to become a Web Ranger and earn another patch, go to WWW.NPS.GOV/WEBRANGERS

