



Smithsonian

Designing

National Parks

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Table of Contents

“Made for You and Me”	4
NPS History	6
Protect and Enjoy	10
Engineering Solutions.....	16
A Look at Yellowstone.....	20
By Design.....	26
STEAM Challenge.....	28
Glossary.....	30
Index	31
Career Advice	32

“Made for You and Me”

“This land is your land, this land is my land
From California to the New York island,
From the Redwood Forest to the Gulf Stream waters
This land was made for you and me.”

—“This Land Is Your Land” by Woody Guthrie

Across the United States, breathtaking landscapes abound. Sandy coasts, dramatic peaks, sweeping valleys, and majestic forests dot the terrain “from sea to shining sea.” Some people would like to **develop** this land. They also want to use its **resources**. But leaders of the past did something remarkable. They made a plan to protect and **preserve** some of the most spectacular places in the country. These places are mainly kept in their natural state. Animals and plants thrive there.

What did these leaders do? They established national parks and founded the National Park Service (NPS). The NPS preserves “natural and cultural resources and values.” It does this “for the enjoyment, education, and inspiration of this and future generations.” In this way, everyone can explore the land that “was made for you and me.”

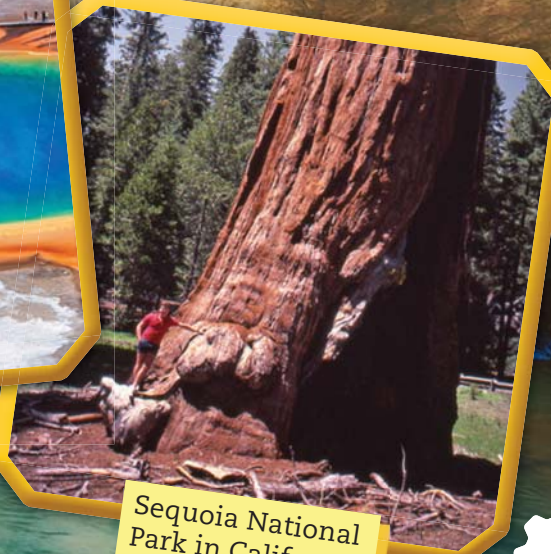
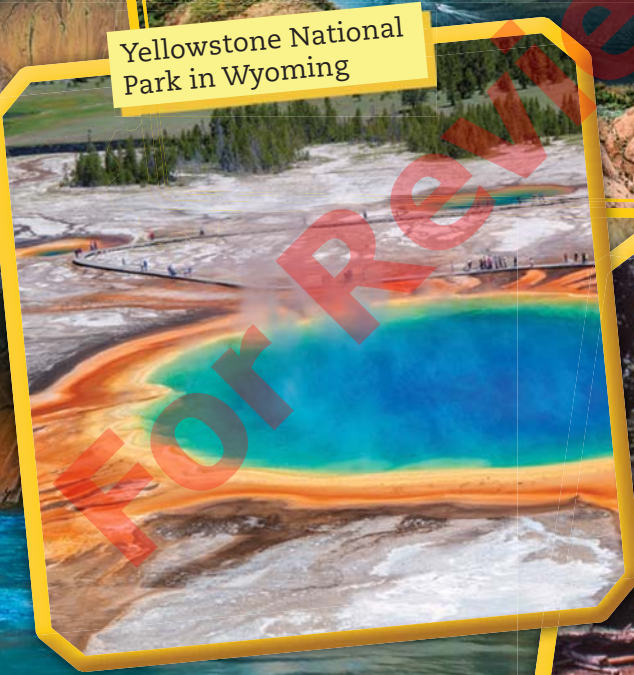
There are hundreds of protected parks in the country. Among them, 59 have “National Park” in their official name.

Zion National Park in Utah

Grand Canyon National Park in Arizona



Yellowstone National Park in Wyoming



Sequoia National Park in California

NPS History

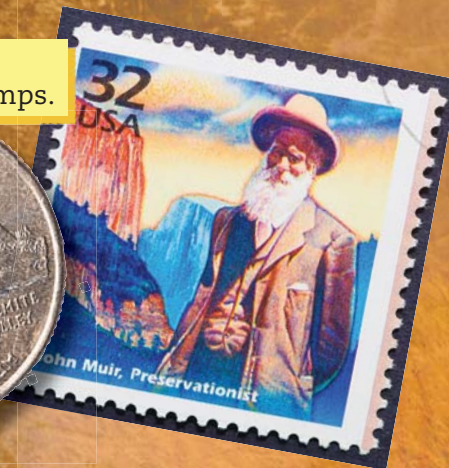
In the 1800s, the United States was expanding. More and more people moved west to “settle” the land. American Indians who were living there were forced out. This is seen as one of the United States’ cruellest periods. But at the time, settlers were not concerned with who owned the land. They thought the land was theirs to take.

For most people, the move west was filled with promise. For some, though, there was a concern. Much of the land in the East had been developed. Would any of the United States’ natural wonders last?

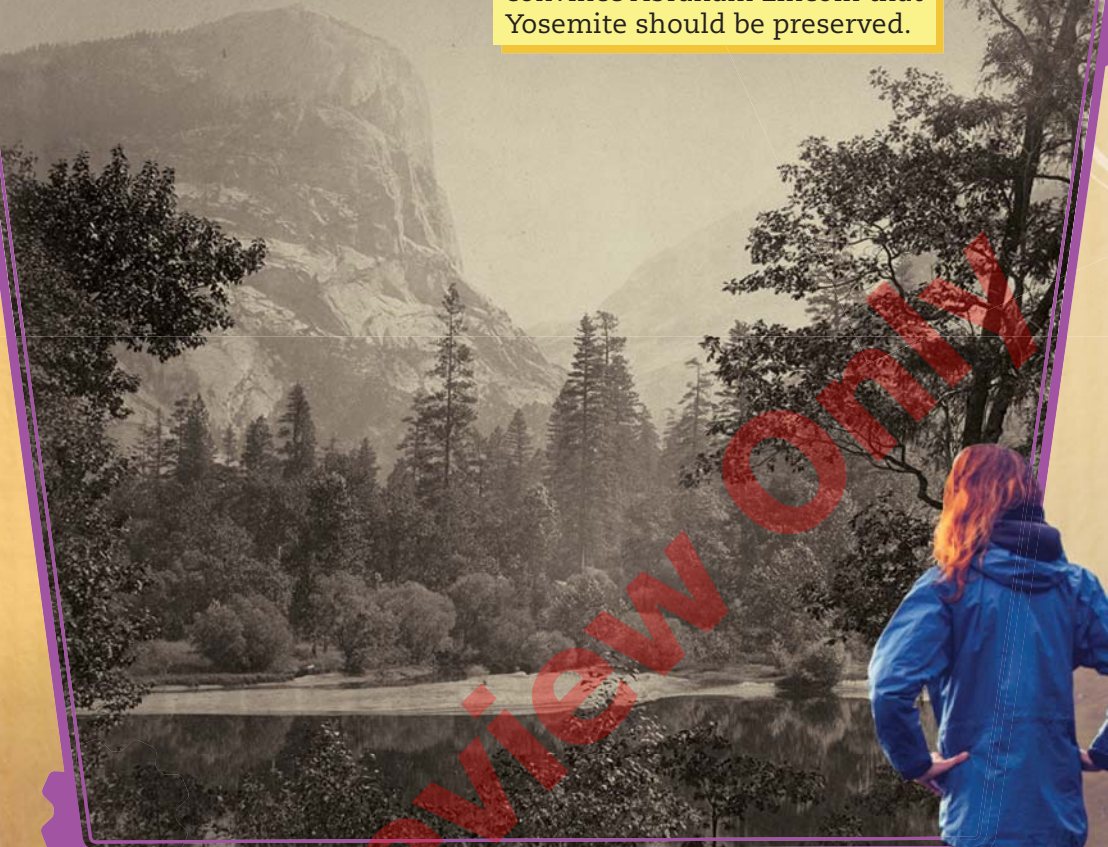
One of those natural wonders was Yosemite (yoh-SEH-mih-tee) in California. Naturalist John Muir (MYUR) spent a great deal of time there. He also wrote about the area and took photos of the striking views. People began to talk about keeping Yosemite for others to see and enjoy.

During the Civil War, President Abraham Lincoln placed Yosemite under protection. Years later, President Ulysses S. Grant named a park in Wyoming—Yellowstone—the first national park. The date was March 1, 1872. This was just the beginning.

John Muir has been featured on specialty coins and postage stamps.



This 1861 photograph helped convince Abraham Lincoln that Yosemite should be preserved.



SCIENCE

Good for You

John Muir wrote that everybody needs places “where nature may heal and give strength to body and soul.” Science shows that he was right! Studies indicate that people who live near outdoor spaces show fewer physical and mental health issues. Studies also show that time in green spaces reduces stress hormones and the body’s heart rate.

NPS Chief Nigel Fields gives a speech with a Junior Ranger for the NPS's 100-year anniversary.



The NPS has a Junior Ranger program. Children can earn badges for completing activities.

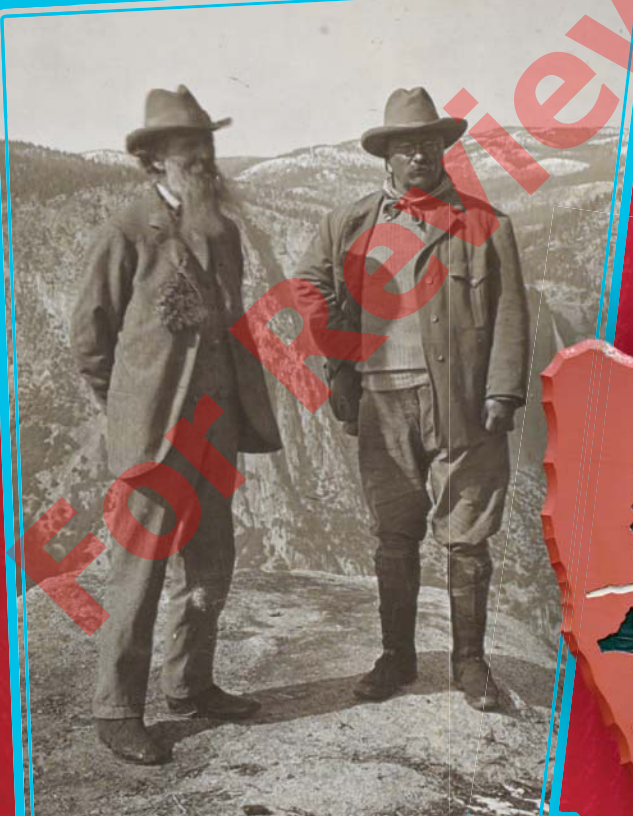


President Theodore Roosevelt was also a champion of national parks. He was an **environmentalist**. He loved nature. While he was president, he named 5 national parks. He named 18 national monuments. He set aside millions of acres of forest too.

As a national park, Yellowstone was placed under the care of the Department of the Interior (DOI). Other sites were placed in the care of their states. President Woodrow Wilson wanted to put all sites under **federal** care. On August 25, 1916, Wilson signed an act to create the National Park Service. It became part of the DOI. Today, all protected sites fall under the NPS. Thousands of people work for the NPS.

The NPS preserves areas of scenic, scientific, and cultural importance. Even the White House is under its care. Congress decides which sites to protect. There are sites in all 50 states.

All U.S. territories have protected sites too. More than 84 million acres are cared for through the NPS. Other sites can and will be added to the care of the NPS over time.



John Muir (left) stands with President Theodore Roosevelt at Yosemite National Park in 1903.





STEAM CHALLENGE

Define the Problem

Skyline Drive is a scenic road that runs along Virginia's Blue Ridge Mountains in Shenandoah National Park. Imagine that a portion of the road will be extended to help drivers go down the mountain safely. You are part of an engineering team that has been asked to design and build a model of the new addition to Skyline Drive in the parkitecture style.



Constraints: Your design must resemble the actual landscape. The road must include five bends, and the starting point must be at least 50 centimeters (about 1.5 feet) above the ground.



Criteria: Your road must allow a marble to roll all the way down the road. The marble must remain on the road for the entire distance.





Research and Brainstorm

What is the purpose of the NPS design standards? How do engineers consider the environment when planning transportation through national parks?



Design and Build

Sketch your design of the road. What purpose will each part serve? What materials will work best? Build the model.



Test and Improve

Release the marble at the start of the road and allow it to travel down the entire distance. Did it work? How can you improve it? Modify your design and try again.



Reflect and Share

Which part of designing and building your model was most challenging? What types of challenges do you think engineers face when building roads, bridges, and tunnels in preserved lands? How might engineers and scientists work together to overcome these challenges?