

Grand Canyon National Park



General Activities Lesson Plans

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Where is Grand Canyon?

Grand Canyon Focus:	Geography, Location
School Subjects:	Math, Social Studies
Grade Level:	4 th through 8 th Grade, adaptable for other grades
AZ Standards Addressed:	Math: 5M-F2 PO6 Social Studies: 3SS-F1 PO6 (1-3); 3SS-F2 PO1; 3SS-E1 PO4; 3SS-E4 PO3, PO5

Lesson Overview

Students will complete a worksheet and use basic map reading skills to identify Grand Canyon National Park's location

Lesson Objectives

The students will receive background information about Grand Canyon. They will learn the location of the canyon, how it relates to where they live, and what geographical features are near it. Additionally, they will be able to map the best route to the canyon from their hometown.

Materials

- United States map that includes physical geography, roads, Colorado Plateau, Four Corners, named lakes and dams, your city/state and Grand Canyon National Park. Colored maps are easier to read. We recommend the AAA Indian Country map or the AAA map of the United States.
- Paper, pencils, and crayons/colored pencils/markers
- A copy for each student of the *Where is Grand Canyon National Park? Worksheet* (pg. GA-3)

Procedure

1. Arrange students into groups of 2-4.
2. Give each group a map or a quality photocopy of the map. Distribute crayons, colored pencils, or markers to those that do not have them.
3. Have students complete the worksheet *Where is Grand Canyon National Park?* using their map.

Worksheet: Where is Grand Canyon National Park?

Part 1: Finding Grand Canyon National Park

- 1) Can you find the place where the corners of four states meet? This is called Four Corners. The states that make up the Four Corners are _____, _____, _____, _____.
- 2) Look west and slightly south of Four Corners and you will find Grand Canyon National Park. It is in the state of _____. The Grand Canyon is located in a geographic area known as the Colorado Plateau, which is characterized by layers of sedimentary rock that have been uplifted thousands of feet above sea level. Grand Canyon National Park protects over one million acres of northwestern Arizona along 277 miles of the Colorado River. The canyon averages 10 miles wide and one vertical mile deep.
- 3) The Colorado River is 1,400 miles long. Since only 277 miles are in the Grand Canyon it must flow through other areas. Begin at Grand Canyon and follow the river upstream to the northeast. The Colorado River begins in the state of _____. It flows from the _____ mountain range. It passes through Lake _____ and the _____ Dam.
- 4) Now trace the river downstream to the west and south of Grand Canyon. The river goes through Lake _____. What dam does the river pass? _____. Which states does it pass through? _____ and _____. The river finally ends in which ocean? _____.

Part 2: How far is Grand Canyon National Park from where you live?

- 1) Using a map that has your city and state and Grand Canyon, determine your route to Grand Canyon. How many total miles will you travel? _____. To calculate how many hours it will take you to drive, divide the number of miles by 50 m.p.h. (this is an average speed). How many hours will it take? _____. How many days? _____. How many states will you pass through? _____. Will you cross any major geologic features? If so, list them: _____, _____, _____, _____.

Create a National Park

Grand Canyon Focus:	What is a national park?
School Subjects:	History, English, Science
Grade Level:	4 th through 8 th Grade, adaptable for other grades
AZ Standards Addressed:	Language Arts: Standard 3 Visual Arts: Standard 1 Social Studies: 2SS-F2 PO3; 2SS-F3 PO2, PO4; 3SS-F1 PO3; 3SS-F2 PO1, PO3; 3SS-E4 PO3

Lesson Overview

After a brief overview of what the National Park System is, students will work as individuals or in teams to create their own national park site with recycled items, and arts and crafts items.

Lesson Objectives

The students will understand the purpose and characteristics of a national park, some of the issues facing the management of parks, and the different ecosystems national parks protect.

Materials

- Large white paper, colored paper, markers and/or crayons, glue, paint and brushes, clay or play dough, tape, scissors, and other art supplies.
- Recycled materials (egg/milk cartons, cardboard, lids, small boxes, string, rubber bands, foil, magazines, cereal boxes, paper cups, plastic containers, popsicle sticks, etc.)
- Small toys such as plastic animals, people, buildings, trees, etc.
- Natural materials collected outside such as leaves, sticks, rocks, etc.

Background Information

National Parks are places that represent America's beauty, wildlife, history and people. They also represent our heritage. They protect fragile or unique ecosystems, wildlife habitat, human-made or natural structures, waterways, and riparian zones. Each park has one or more of these features, which is why it is protected.

The National Park System includes parks, monuments, preserves, reserves, lakeshores, seashores, rivers, wild and scenic river ways, scenic trails, historic sites, military parks, battlefields, memorials, and recreation areas. Congress sets these areas aside so that the best of America's scenery, history, nature, and wilderness is protected for future generations. *See the General Vocabulary page for definitions of each.*

The National Park Service is an agency within the Department of the Interior, created by Congress on August 25, 1916 to fulfill the mission of its Organic Act, which states: **"The Service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations . . . which purpose is to**

conserve the scenery and the natural historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

The park service charges rangers to manage our parks for recreation, education, and preservation. For recreation, parks must offer certain facilities and activities, such as campgrounds, hiking trails, overlooks, tours (boat, horse, walking, etc.), lodges and restaurants. Educational efforts by the park service include visitor centers, museums, ranger-led programs, and informational pamphlets, maps, and guides. Furthermore, rangers must be able to answer questions on a variety of subjects, including interpreting the park's features, problems facing the park, and the dangers within the park. Finally, for preservation, rangers must set and enforce rules. These rules have two purposes: to protect the visitor and protect the park's resources. Rules ensure that everyone has a safe and enjoyable visit, and that resources are protected for future visitors to enjoy.

Procedure

1. Have students bring in brochures, other literature, or photos from parks they have visited. Students can also write to parks to request information. To find the names and addresses of national parks, visit the National Park Service website at www.nps.gov. You might also check your school library for books on national parks as well.
2. Discuss the purpose of parks, their characteristics, and the different features they protect (i.e. ecosystem, natural or human-made structures, etc.). Discuss the differences between parks managed by the National Park Service and parks managed by other agencies or organizations. Ask if anyone has been to a national park and, if so, which one? What did they see? What was the park protecting? Discuss the reasons for creating a national park. Who owns them?
3. Explain that the students will create their own national park. Have them think about what they would like to see/protect in a national park. Write the Organic Act (see "background information") on the board and have the students decipher its meaning. Is it possible to conserve resources unimpaired while still providing for their public enjoyment? Brainstorm how park managers can protect park resources and provide for people to visit parks without damaging the resources.
4. Have students work as individuals or in teams to create their own national parks. Students should carefully study the literature and other material they collected from real parks. Encourage them to be as creative as school or home resources will allow. They can simply draw their park on butcher paper, create a three dimensional park on cardboard using natural and recycled material, or come up with other ideas.
5. Start by having the students design the natural and/or cultural features of their park. Remind them that the features in their park must be special enough to the entire nation to justify it becoming a national park. Have them use their imagination when designing their park resources. For instance, sticks can be used for an old-growth forest, blue cellophane can make a river, rocks can become a mountain range or a prehistoric dwelling, small toys from home can represent wildlife or historic features such as battlefields or buildings.

6. Have them think about what park visitors will need when they visit the park and what might be needed to protect the natural and cultural resources of the park. Again, let their imaginations guide them in developing trails, motels, visitor centers, museums, restaurants, viewpoints, signs, barriers, entrance stations, souvenir and book shops, medical facilities, maintenance facilities, staff housing and offices, campgrounds, transportation facilities (roads, parking lots, busses, etc.), etc.
7. Students will need to design a brochure highlighting the features of the park and what it has to offer. Include a map, safety messages, park rules, fees charged (if any), tours and ranger programs offered. Draw pictures of the park or use cut outs from old magazines.
8. Students can then become the rangers, taking the class on a "park tour" and explaining the features and services provided. Encourage students to ask the presenters thoughtful questions.
9. After everyone has had a chance to present their park, the class should discuss what they learned. Here are some discussion ideas:
 - What was their favorite resource and/or park and why? What would they change about their park?
 - Did all the parks have resources important enough to be protected nationally?
 - Did each park have enough facilities to accommodate visitors?
 - How were the natural and cultural resources protected?
 - Were educational programs offered? What was their purpose?
 - How much would it cost to manage their park? Where would this money come from? What would the money be used for? Should an entrance fee be charged? Who should or shouldn't have to pay?
 - What should be done with the trash and sewage generated by people living in, working in, and visiting the park?
 - Who should manage the hotels, souvenir shops, and restaurants? What limitations, if any, should be put on those who provide these types of facilities.
 - What would happen to the park if... (try some different scenarios such as a large fire or other natural disaster occurred, a city grew around the park boundaries, air pollution increased, too many people came to visit, no one came to visit, there were no rules, there were no rangers, there were no facilities, there were too many facilities, people didn't think the park was important, etc.).

*Adapted from *Create a Park*, Everglades National Park

Personal History Timeline

Grand Canyon Focus:	Geology
School Subject:	History
Grade Level:	4 th through 8 th Grade
AZ Standards Addressed:	Social Studies: ISS-F1 PO1, PO2

Lesson Overview

Students will construct a personal history timeline. If your class is completing the *Geology* or *Human History* lesson plans, this lesson works well as a preliminary activity to the following lesson plans: *Grand Canyon Geologic Timeline* (pg. GEO-14), and *Human History Timeline* (pg. HH-10).

Lesson Objectives

Students will understand how changes over time may be measured in timelines. This will help them better understand the geologic timeline and/or human history timeline activities.

Materials

- Roll of butcher paper
- Colored markers

Procedure

1. Introduce the concept of timelines: ask whether anyone knows what a timeline is. Think of examples of processes or steps that, taken as a whole, complete an event. For example, making a sandwich, making a cake, going to school, reading chapters from a book, or building a house.
2. Explain that each student is going to create a personal timeline. Ask them to focus on memories of important events in their lives. These can be happy or sad. Include events that the students may know about from hearing family stories but may not actually remember such as birth. Brainstorm and list on the board.
3. Ask students to go home and discuss with their families significant life events beginning with birth. Tell them to record their research including dates and how old they were when each event happened. They can write or illustrate their findings. Have them bring their findings to class the next day.
4. Demonstrate how they are to proceed by placing a five-foot-long piece of butcher paper on the floor. Have a student lay on it with their arms stretched out to the side. Trace around a student from the waist up to include head, outstretched arms and upper torso. Help students determine what the scale will be for their timelines. Locate the mid point of their life (the nose). One end of the fingertips would be birth. Fingertips on the other hand represent today. What would be the scale for one year?
5. Distribute a large piece of butcher paper to each student. Divide the students into pairs. Ask students to trace a body outline of each other including head, outstretched arms, and upper torso.
6. Have students record their timelines on their tracing and share with the class.