

## The Grand Canyon: How Did Something So Massive Come About?

### Overview

This is an introductory lesson on Erosion. As a class, students will begin analyzing a map of Arizona. They will observe, reflect, and question the map. Students will then create a brochure to be displayed in the classroom that focuses on The Grand Canyon. Students will be split into groups where they will briefly analyze a primary source and research topics at each station that will be included in a section of their brochure. The topics include: Formation, Features, Weather/Climate, Wildlife, and Tourism. A template for the brochures is attached, however, it can be modified/ implemented whichever way works best for the class.

### Objectives

- Students will analyze a map and identify the major landmarks (Grand Canyon, Colorado River).
- Students will conduct scientific research using iPads or computers.
- Students will explain how erosion caused the formation of The Grand Canyon.
- Students will describe the special landform features that make up The Grand Canyon.
- Students will learn the weather and climate patterns of The Grand Canyon.
- Students will identify the different plants and animals that inhabit The Grand Canyon.
- Students will research how American's utilize The Grand Canyon through tourism.

**Time Required** 2-3 periods (80-100 minutes)

**Recommended Grade Range** 4-6

**Subject/ Sub-Subject** Science: Erosion; Social Studies: Geography

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### Standards

3.3.5.A1: Describe how landforms are the result of a combination of destructive forces such as erosion and constructive erosion, deposition of sediment, etc.

S4.A.2.1.1: Generate questions about objects, organisms, or events that can be answered through scientific investigations.

S4.B.3.1 Identify and describe living and nonliving things in the environment and their interaction.

3.1.4.A2: Describe the different resources that plants and animals need to live.

3.3.4.A6: MODELS/SCALE- Identify basic landforms using models and simple maps.



**PREPARATION****Materials Used**

- Analysis tool (maps)
- Brochure Template
- Ipads or computer lab
- Projector
- Computer paper, construction paper, or posters
- Markers, colored pencils, crayons
- Pencil
- Scissors
- Glue
- Tape

**Resources Used**

- **Map**
  - Title: Territory of Arizona.
  - Author: United States. General Land Office.
  - Date: 1876. URL: <https://www.loc.gov/item/99446141/>
- **Station 1**
  - Title: Grand Canyon, Arizona
  - Author: Highsmith, Carol M., 1946-, photographer
  - Date: Between 1980 and 2006. URL: <https://www.loc.gov/item/2011630363/>
- **Station 2**
  - Title: Grand Canyon, Arizona / photo by Kolb Bros., Grand Canyon, Ariz.
  - Author: Kolb Bros., photographer
  - Date: 1913. URL: <https://www.loc.gov/item/89710769/>
- **Station 3**
  - Title: On Granger Point, Grand Canyon, Arizona
  - Author: Globe Stereograph Co.
  - Date: 1906. URL: <https://www.loc.gov/item/90709759/>
- **Station 4**
  - Title: Three donkeys(?) in the Grand Canyon, Arizona
  - Author: Copyright by F.H. Maude.
  - Date: 1900. URL: <https://www.loc.gov/item/99472522/>
- **Station 5**
  - Title: Grand Canyon National Park, Arizona
  - Author: United States. National Park Service
  - Date: 1996. URL: <https://www.loc.gov/item/96682413/>



**PROCEDURE**

- The teacher will pass out the analysis tool for maps and display the map of Arizona on the projector. The analysis tool for maps can be found here: [http://www.loc.gov/teachers/usingprimarysources/resources/Analyzing\\_Maps.pdf](http://www.loc.gov/teachers/usingprimarysources/resources/Analyzing_Maps.pdf).
- The teacher will give students independent time to begin filling in the organizer regarding the map.
- The class will discuss their observations, reflections, and questions stated in the analysis tool.
- The teacher will explain that the focus of the lesson is to learn all about The Grand Canyon by performing some scientific research.
- The teacher will explain that the objective is for each student to examine the primary source, conduct research at the stations, and translate their findings onto a decorative brochure with a minimum of three facts for each section.
- The teacher will explain that students are working in groups to share ideas but will be creating their own brochure to be displayed in the classroom.
- The teacher will display the brochure template and leave it on the projector for students to reference.
- The teacher will explain the five groups and split students up
  - Station 1: Formation
  - Station 2: Features
  - Station 3: Weather/Climate
  - Station 4: Wildlife (plants, animals, how they adapt)
  - Section 5: Tourism
- Students will have 10-15 minutes at each station to researching the topics.
- Each group will present their findings to the class: every student from the group is required to share one piece of information.

\*Note: Students can request to have photos printed but must check with the teacher first. \*

**Extensions**

- Science: Students can predict how erosion will affect The Grand Canyon, rock layers, and animal life in the future.
- Social Studies: Students can create a business/ tourist attraction (or research current) and explain its effect on economy.

**Evaluation**

- Classroom discussion
- Teacher monitoring of group conversations
- Brochure project/ presentation



## Station 4 Title

### Primary Source Title

1) Observation:

2) Reflection:

3) Question:

### Research:

1)

2)

3)

Graphics/Image

## Station 5 Title

### Primary Source Title

1) Observation:

2) Reflection:

3) Question:

### Research:

1)

2)

3)

Graphics/Image

# Title

## Cover page

## Station 1 Title

### Primary Source Title

1) Observation:

2) Reflection:

3) Question:

### Research:

1)

2)

3)

4)

Graphics/Image

## Station 2 Title

### Primary Source Title

1) Observation:

2) Reflection:

3) Question:

### Research:

1)

2)

3)

4)

Graphics/Image

## Station 3 Title

### Primary Source Title

1) Observation:

2) Reflection:

3) Question:

### Research:

1)

2)

3)

4)

Graphics/Image