



# Landscape Stories



## Death Valley National Park

Dynamic Death Valley Post-Trip Lesson  
Two 1 hour periods

**Essential Question:** How are canyons, natural bridges, and salt flats formed?

### Standard(s):

Next Generation Science Standards

4-ESS1-1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

4-ESS2-1 Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.

Common Core Standards

W.4.8 Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.

### Objectives:

Students will be able to:

- analyze a landscape and make conclusions about how it may have formed.
- define the difference between weathering and erosion

### Overview:

In groups, students use their knowledge and experience from the field trip to create landscape stories about Death Valley National Park. Students record their stories using a cartoon strip.

### Teacher Background Information:

During the field trip, students will learn how features in Death Valley were formed. Salt flats are formed by floodwaters bringing down minerals from the surrounding mountains. The floodwaters pool at the lowest point, Badwater Basin. When those floodwaters dry up, salt is left behind. Additionally, Badwater is a low point because the crust is being pulled apart, causing this area to drop.

Canyons are formed as water weathers and erodes away the rock, carrying it out of the mouth of the canyon and onto the alluvial fan and valley floor. These canyons are confining canyons—which means that water channels or funnels into narrow sections of the canyon. The water can get deeper and faster in these areas.

### Materials:

- Printed photos of Death Valley landscapes, one for each group
- Cartoon strip worksheet for each student

## **Procedure:**

### Anticipatory Set

Break students into groups of four or five by counting off or using another method of sorting students into groups. Ask them to recall their trip to Badwater and/or Golden Canyon. In small groups, the students should discuss how canyons and/or the salt flats form.

### Group Activity

- Pass out pictures of desert landscapes in Death Valley to the same groups.
- Ask the students to come up with reasons why the landscape appears the way it does.
- Project the photo using the provided PowerPoint.
- When the students have discussed it for about 15 or 20 minutes, have them choose a leader to go in front of their peers and tell their landscape story.

## **Vocabulary:**

**Weathering:** The process of breaking large rocks into smaller rocks over time.

**Erosion:** The movement of weathered rock and soil from one place to another.

## **Assessment:**

Each student should be provided with a three part cartoon strip. They will draw their landscape story that corresponds with the card they received in three parts (before, during, and how the landscape appears today).

**Badwater:** In their cartoon strip, students should create three drawings that represent floodwaters from storms bringing down minerals from the mountains, the floodwaters pooling in the bottom of the basin, and the water evaporating, leaving the salt behind.

**Golden Canyon:** In their cartoon strip, students should create three drawings that represent floodwaters from storms weathering and eroding away at mountains. The students' drawings should include the movement of water through the canyon. Students may also represent the canyon getting wider and/or deeper as time passes and floods carve more and more rock away.

**Natural Bridge:** In their cartoon strip, students should create three drawings that represent floodwaters from storms weathering and eroding away at mountains. The students' drawings should include the movement of water through the canyon. Students should also represent floodwaters carving a hole into a canyon wall which creates the rock bridge formation.

This lesson plan was developed through the Teacher-Ranger-Teacher program.