

ROZZY READERS

**ECOLOGIST:
DEATH VALLEY NATIONAL PARK
3-5**

Section 1: Ecologists

Ecologist



A scientist who studies ecosystems. Ecosystems are made up of living things, like plants and animals, and non-living things, like rocks and soil.

National Parks



National parks are parks in the United States that have been created by the government. The government created national parks so that it could keep the plants and animals that live there safe.

Death Valley National Park



A national park located primarily in California. It is the lowest, hottest, and driest place in North America. It gets less than two inches of rain per year!

Ecosystem



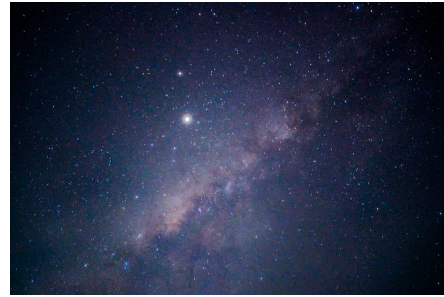
Communities of living things, like plants and animals, and non-living things, like rocks and soil. Living and non-living things share an environment and resources within that environment.

Adaptions



Changes that happen to a plant or animal to help it survive. For example, this rabbit's large ears release heat to help keep them cool.

International Dark Sky Parks



Land that has the darkest night skies, which allows the best stargazing. The lack of light in these parks at night allows people to see stars that typically can't be seen elsewhere.

Career Highlight:

Ecologist

Ecologists are scientists who study ecosystems. Ecosystems are made up of living things, like plants and animals, and non-living things, like rocks and soil.

An ecosystem is an area where these living and non-living things interact with each other. For example, the picture to the right shows a forest ecosystem. The animals, plants, and water in the picture all exist together and form a community that make it an ecosystem.

Responsibilities include:

- Observe ecosystems and collect data to learn about how plants and animals live together and survive.
- Solve environmental problems by finding out what things are negatively impacting an ecosystem.
- Prepare scientific reports on how to best protect and restore damaged habitats.

Education required:

To become an ecologist, you must have a bachelor's degree in biology or a related field such as zoology, microbiology, or botany.



Content Check:

Ecologist

Answer the questions below about ecologists.

1. What does an ecologist study? .
2. What are ecosystems?
3. Name at least one responsibility an ecologist might have.

Section 2:

Death Valley National Park

Imagine that you just got a job as an ecologist at Death Valley National Park. Learn about Death Valley National Park and the animals and plants who live there to prepare yourself for your new role!

Learn: Death Valley National Park

LOCATION:

Death Valley National Park is located primarily in Inyo County, California. A small portion of the park is located in Nevada.



QUICK FACTS

Death Valley became a national park in 1994. It is the lowest, hottest, and driest place in North America. It gets less than two inches of rain per year!

Death Valley is the hottest place on Earth, with a recorded temperature of 134 °F on July 10, 1913.

The park is also an International Dark Sky Park. The park has one of the darkest night skies because the mountains surrounding it block out light from cities. This allows many stars to be seen at night that you normally wouldn't see.



Eureka Sand Dunes



Mountains in Death Valley

HISTORY:

- Death Valley was first home to Native Americans. The Timbisha Shoshone lived here for centuries. Today, you can still see stone tools, rock art, and other artifacts from when the Timbisha Shoshone lived in Death Valley.
- Between the years of 1849 and 1915 many people came to Death Valley to mine. There are still mining structures in the park that can be viewed by visitors.
- In the 1920s wealthy individuals began building vacation homes in Death Valley and an inn was built to attract visitors.



Keane Wonder Mine

PLANTS:

Death Valley National Park has more than 1,000 plant species. There are more than 13 species of cactus and more than 23 plants thought to only grow in the Death Valley area. Plants adapt in order to live in the desert. Adaptions are changes the plant makes to help it to survive. Ecologists often study how plants adapt to where they live in order to survive.

Mesquite Tree

These trees survive because their roots are up to 80 feet long. These roots allow them to reach water deep underground.



Pickle Weed

Survives by living near water sources such as springs and streams.



Wildflowers

When Death Valley has perfect conditions a super bloom can occur. A super bloom is when the desert is filled with gold, yellow, purple, pink, or white wildflowers. Super blooms happen on average once a decade.



ANIMALS:

Death Valley receives less than two inches of rain a year. Temperatures can be above 120 degrees. Even with these tough conditions, Death Valley is home to 36 reptiles, 56 mammals, 6 fish, 5 amphibians, and close to 400 bird species. Animals adapt in order to live in the desert. Adaptions are changes to the animals body or behavior that help it to survive. Ecologists often study how animals adapt to where they live in order to survive.

Bighorn Sheep

These sheep can go without water for days. When they are able to get water they drink several gallons at a time, allowing them to rehydrate.



Mojave Desert Tortoise

The Desert Tortoise is a threatened species because of illegal hunting, visitors driving off-road, and the spread of disease. Tortoises survive the extreme heat of Death Valley by spending the majority of the year in an underground burrow. When it gets extremely hot, the tortoise will enter a state of dormancy which allows them to save water.



Kangaroo Rats

Kangaroo rats do not have to worry about the lack of water in Death Valley because they are able to get enough water from the seeds they eat.



Jackrabbits

Jackrabbits survive in this hot climate by releasing heat from their large ears.



VISITING TODAY

Today, people visit Death Valley National Park to see geological features such as the Badwater Basin, sand dunes, or salt flats.

In addition to site seeing, many visitors come to Death Valley to do outdoor activities such as hiking, camping, biking, and star gazing.



Content Check:

Death Valley National Park

Use the word bank to fill in the blanks in the paragraph about Death Valley National Park.

Word Bank

mesquite tree	star gazing	gallons
jackrabbits	mining	adapt
Timbisha Shoshone	North America	California

The majority of Death Valley National Park is in the state of _____.

It is the lowest, hottest, and driest place in _____. The first people who lived in Death Valley were the _____. From 1849-1915 _____ drew people to Death Valley. Because Death Valley is so hot and dry, it is a difficult place for plants and animals to survive. Plants and animals had to _____ in order to live. For example, bighorn sheep can go for days without water and when they are finally able to find water they drink several _____ so they can rehydrate. _____ survive in the hot climate by releasing heat from their large ears. Plants also must adapt in order to survive. For example, the _____ has roots that are up to 80 feet long, allowing it to reach water deep underground. Many people visit Death Valley National Park to see geological features and participate in outdoor activities like hiking, camping, and _____.

Section 3:

Math Practice: Converting Measurements & Calculating Time

Part of your job as an ecologist is to make observations of how plants and animals interact in their ecosystems. You often have to drive to different locations to gather information. On the next slide, find the distance between different locations in the park. Then, calculate how long it will take you to drive there.

Complete the chart by using the distance in feet or yards to find how many miles away the sites are from each other. Use scratch paper to show your work.

$$1 \text{ mile} = 5,280 \text{ feet}$$

$$1 \text{ mile} = 1,760 \text{ yards}$$

Locations	Distance in Feet or Yards	Distance in Miles
Badwater Basin to Father Crowley Vista Point	427,680 feet	
Father Crowley Vista Point to Titus Canyon	464,640 feet	
Titus Canyon to Towne Pass	75,680 yards	
Towne Pass to Dante's View	116,160 yards	

Find how long it will take you to drive from each location. Round your answer to the nearest half hour.

$$\text{Time} = \text{Distance} / \text{Speed}$$

1. If you are driving 40 mph, how long will it take you to get from Badwater Basin to Father Crowley Vista Point?
2. If you are driving 40 mph, how long will it take you to get from Titus Canyon to Towne Pass?

Note: These distances are created for this activity and may vary from the actual distances in Death Valley.

Section 4:

ELA Practice-Story Elements & Fiction Writing

Ecologists often study how animals adapt in order to survive. Today, you are going to imagine that you have just discovered a new animal at Death Valley National Park. You will think like an ecologist to create an animal that has adapted so that it is able to survive in the park. Then, you will write a story about your animal.

Imagine that you have discovered a new animal that lives in Death Valley National Park. Draw your animal on a piece of scratch paper. Then, write about your animal below. Your animal must be one that has never been discovered before. Hint: If you're stuck look at slides 13 and 14.

Your Animals Name:

Where in Death Valley National Park does it live?

How does your animal keep enemies away?

How does your animal get water?

How does your animal keep cool?

Now, you will write a fiction story about your newly discovered animal. Start by reviewing that elements of a fiction story.

Fiction stories are made up and are not true. Fiction stories have:

Characters

Pretend people, animals, or things that are a part of the story.



A Problem

An issue that the characters are trying to fix.



A Solution

How the problem is solved



A Setting

Where and when the story happens.



A Plot

Events that happen in the story. Stories should have a beginning, middle, and end.



Plan your story by answering the questions below and on the next slide. Your story should be about the animal you discovered living in Death Valley National Park. Remember, you are writing a fiction story, so be creative! For example, you could have animals talking to each other or playing a game of kickball!

Characters:

Your main character must be the animal you discovered above.

Main Character Name: _____

List three adjectives to describe the character's personality. For example, your animal could be adventurous, loud, or scary.

If there will be any other characters in your story write their names below:

Setting:

Where in Death Valley does your story happen?

Problem:

What is the problem?

Plot:

What events happen in the story?

Beginning:

Middle:

End:

Solution:

How is the problem solved?

Plot:

What events happen in the story?

Beginning:

Middle:

End:

Solution:

How is the problem solved?

**Write the story about your newly discovered animal in the box below.
Your story should have at least twelve sentences.**

A large, empty rectangular box with a purple border, intended for writing a story.