



Teacher's Guide

Death Valley: Desert Biome Survival **NATURE Science Education Series**

Grade Levels:

5-12

Subject Areas:

Sciences
Life Sciences
Biology
Earth Sciences
Ecology

Synopsis:

Films the landforms and plant and animal life of Death Valley explaining the origins the Valley's geology and the significance of its rain shadow location. Details how animals and plants have adapted to this extreme environment. Interviews biologists who are studying the endangered desert pupfish that resides in the aquifer known as Devil's Hole. In an unusual sequence, films a five-day desert rainstorm with its attendant environmental stresses and replenishing after effects. Closes with a study of the desert tortoise and its remarkable adaptations to this desert biome.

Learning Objectives: Students will:

- Describe adaptations that desert animals and plants have made to this extreme environment.
- Explain why Death Valley is one of the driest and hottest deserts on Earth.
- Describe Devil's Hole and the conservation efforts that are taking place there.
- Appreciate the fusion of form and function in this desert biome.

Vocabulary:

fickle, languish, perish, ingenious, devise, denizens, antelope squirrels, dissipate, capillaries, wicked away, convection, rain shadow, trivial, virga, Devil's Hole, implausible, irony, aquifer systems, abyss, habitats, pupfish, mastodons, endangered, fluctuating, contamination, merciless, replenish, gene pool, brackish, oasis, pickleweed, saltbush, desert holly, bombard, desert bighorn,

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burgeoning, craggy, chuckwalla, bulk up, fringe-toed lizard, combed feet, cataclysmic, sediments, alluvial fans, glacial, cirrus clouds, outriders, racetrack playa, inexplicably, chronicles, Goliath, benevolent, metamorphosis, desert tortoise, ephemeral

Pre-Viewing Discussion:

What North American desert is one of the hottest and driest on Earth?

What is the exact location of Death Valley? What is its elevation?

What is a rain shadow? How do we know that Death Valley is located in a rain shadow?

Can you name some of the plants and animals that inhabit this extreme environment?

Post-Viewing Discussion:

What is virga? Why is virga a common occurrence in Death Valley?

What is Devil's Hole? Why is it so unusual? How was it formed?

Which pupfish is most likely to survive, the Devil's Hole pupfish or the salt flats pupfish? What makes you think so?

How have the desert bighorn and the desert tortoise adapted to this harsh environment?

How did forces within the earth cause the landforms so characteristic of Death Valley?

Further Activities:

If possible, tour Death Valley and visit the ranger station for information and special presentations about the landforms and plants and animals of the Valley.

Investigate the history of the borax industry in Death Valley.

Investigate the biographies of pioneers who perished in the Valley as they travelled to California.

Find artistic photographs or paintings of Death Valley. Distinguish between those that provide an accurate depiction of the desert and those that express the artist's impression of the Valley.

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