

This resource concept was originally developed by the College View "Trailblazers"

Instructor: Help us improve this resource by sending your feed back to:

Lonny Nelson
lonny@adventsource.org
402-802-8131

Dunes Honor



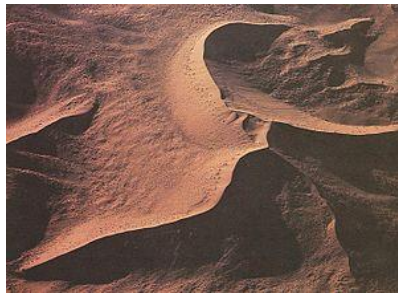
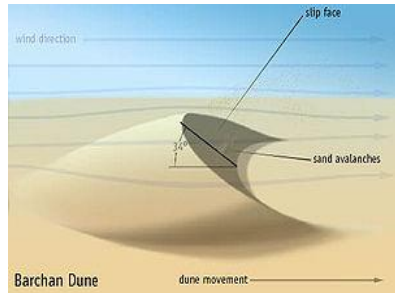
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Dunes Honor on

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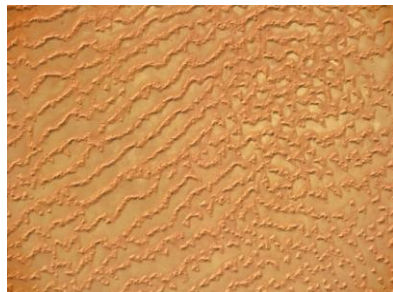
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4. Explain the following dune formations: barchans, star dunes, linear or longitudinal dunes, parabolic



Barchans

Star Dunes



Linear or Longitudinal Dunes

Parabolic

Dome



Horned Viper

This snake is a sidewinder, meaning it uses its head and tail to move their body sideways. It uses camouflage so that it is the same color as its surroundings, usually sand. It lives in northern Africa deserts.



Camel

Camels have the ability to close their nostrils against blowing sand and can eat hard, thorny vegetation. They store energy in their hump(s) and can tolerate water loss equivalent to over 1/3 of their body weight. All of these characteristics combined

with their two toed feet with webbing make them great animals for crossing deserts and climbing over immense sand dunes. They can drink over 20 gallons of water in a very short time.



Atlantic Ghost Crab

A crab that feeds at night, also digs burrows up to 4 feet deep and to ¼ mile from the shore. They are scavengers and have a fantastic ability to live away from the water, only returning to wet its gills (can also do this in wet sand) and reproduce.

10 a. Visit a zoo where there are desert animals, especially those that might live in dunes.

10 b. Watch a video about dunes or plants or animals that live in dunes.

9. Give five examples of animal species in dune environments. How are they unique for living in dune communities?

Reptiles, amphibians, birds, spiders, insects, crustaceans and mammals can survive in the dunes. Just like plants; geography, amount of moisture and climate have everything to do with what animal species are found and how they are adapted to their environment.



Antlion

An antlion is an insect that makes funnel shaped craters in very soft sand, about 2 cm across and 2 cm deep. The ferocious looking larvae hide in sand at the bottom and then wait patiently for something to walk past and fall in to be

ambushed. The Antlion larvae react very well to false stimulation that there has been a capture, coming out into full view. They are common in the Great Lakes dunes and throughout the United States.



Western Snowy Plover

A shorebird about the size of a sparrow, found on coastal beaches, dunes and near stream inlets in California and Oregon. They make their nests on the open sand, coming back to the same area year after year. Due to habitat loss,

disturbance and predation these birds are federally threatened. Several organizations are working together to ensure this species survival.



In ecology, the term **Dune Community** is used to express a biological community of plants, animals, and fungi.



The process of **Ecological Succession** is the development of Dune Communities (mainly vegetation) in an area over time toward a steady state.

5. What is Ecological Succession and how is this demonstrated in dune communities?

a. Define Ecological Succession:

From the descriptions read in order identify the correct photo and add the order in the box with the name on the line beside it.



6. What is dune blowout and how does it relate to succession?

7a. What are Pioneer Plants & What is their purpose in dune communities?

7b. Discover two examples of Pioneer Plants.

Beach (Marram) Grass



Always found in the zone directly behind the beach grass, thrives in drifting sand. A very stiff grass with a very extensive underground root system capable of sending new shoots up at any point. It has teeth pointing towards the end, a sharp tip. It also has a seedhead

spike.

American Sea Rocket



This plant is found on seashores and coastal dune communities on a worldwide scale. It has waxy, thick leaves and its tiny flower clusters are light purple to white depending on geographical location. This plant bears two sectioned fruits. The seeds fall out and the

membrane that was holding the seeds stay attached.

8. Discover three examples of plants in dune environments. How are they adapted for survival?

Cottonwood Tree



This tree has the ability to grow roots at any point of its buried trunk, grows rapidly from the top. It is very difficult to determine the true height of the tree(s) due to what is buried below the dune! Only the top might be exposed of a large, mature tree. Commonly found

in Lake Michigan sand dune environments.

Shore Pine



Native to the western United States, this tree is often found in sandy environments and coastal sand dunes of the Pacific Ocean. This tree is most often found with strange forms, stunted growth and deformities all a result of unidirectional, strong winds.

Century plant



Native to the southwestern United States and northern Mexico, this plant easily keeps up with the constant blowing and drifting of sand. They thrive on sandy slopes and dry, rocky environments. Their root system is a widespread, dense mass just below the surface as

to absorb any moisture. This plant can grow 2 inches per day; the flowering stock can grow 1 foot per day.