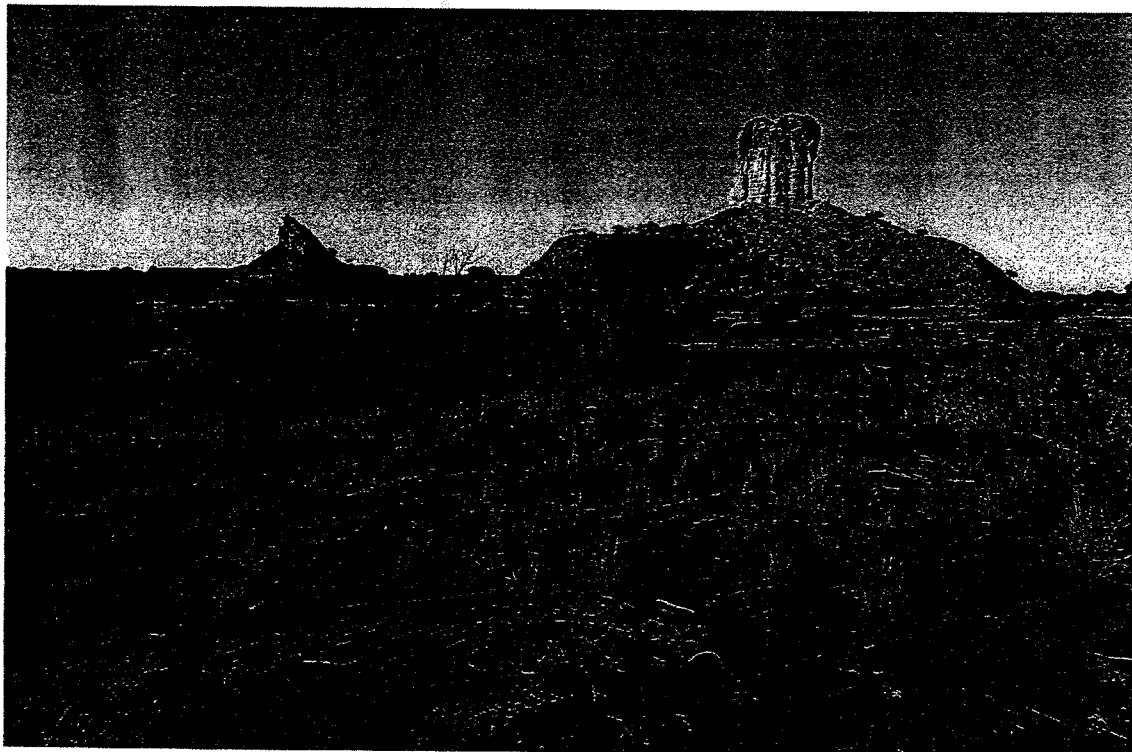


Deserts



Text 1

Deserts

A desert is a place that has few, or sometimes even no life forms. Sometimes life forms adapt to living in deserts, but conditions are usually extreme, and survival is difficult.

Some deserts can be visited but not lived in. Some deserts are so inhospitable that life as we know it cannot survive in them at all.

In terms of rainfall, areas that receive less than 250mm of rain a year are considered to be deserts.

We usually think of deserts as being like sand dunes, but this is not completely accurate as desert landscapes may be either very hot or very cold.

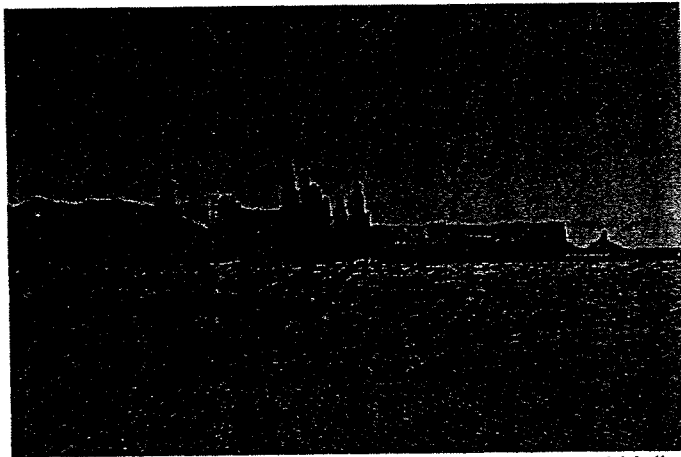


Read the text above about deserts and say which of these sentences are True (T) or False (F)

1. It is easy to survive in a desert T / F
2. In a desert there is no more than 250mm rain every year T / F
3. Deserts are never found in cold parts of the world T / F
4. Sometimes animals and plants can adapt to life in the desert. T / F
5. Deserts always have big mountains of sand in them T / F
6. There are some deserts where no living creatures can survive. T / F

(3 marks)

Hot Deserts



Monument Valley

Desert landscapes can be very varied. This picture shows a part of Monument Valley, which is an **arid** area. There are not many plants because there is not enough **moisture** in the soil for them to feed on. However, there is something here for animals to eat. There are probably some little rodents in this desert -- mice or kangaroo rats, and some lizards. There will be a few snakes to eat the lizards and rodents. There will be insects, too. During the summer many of the animals will seek shelter from the heat by hiding underground. They will come out at night to hunt for food.

Plants make special adaptations to the desert environment.



Some plants don't have a regular seasonal cycle. Their seeds wait in the ground for years until there is a rainy winter: then they sprout rapidly and grow as fast as they can. They race the sun to make seeds before the water evaporates and the heat dries them up. Some of these plants are so tiny that the whole plant could be hidden under a **dime**. Others spread colourful blossoms over the sand and rocks for a few brief days.

Some plants develop water-storing strategies. Cacti store water in their fat stems and they defend themselves with sharp spines. They have large networks of roots that lie under the ground near the surface of the soil. If it does happen to rain, these roots can soak up the water quickly. Many cacti have **corrugated** stems which can expand quickly if water is available.

Glossary

arid: dry

corrugated: *ondulado* (Spanish)

dime: a small American coin

moisture: wetness

networks: systems

Text 2

Text 2

Read text 2. Now answer the questions below.

1. a) Do all deserts look the same? _____
b) Write the word from the text that tells you this. _____ (1 mark)
2. In your own words, write a sentence to explain why there are not many plants in a desert. (2 marks)

3. When do desert animals normally eat? (1 mark)

4. Some plants don't have a regular seasonal cycle. What does this mean?

(2 marks)

5. a) Do desert plants have deep roots? _____
b) What do you think is the reason for this?

(2 marks)

Cold Deserts



On earth we have some cold deserts, where year round cold and unmelting snow create environments where life forms face many difficulties.

This environment is found on the peaks of high mountains and near the poles. Parts of the Antarctic are cold deserts, and the mountains of Greenland are deeply buried in snowfields.

When the weather is so cold that snow never melts, the annual rainfall (snowfall) is not an important factor for life forms. So, life forms in this environment are generally just visitors.

The driest deserts on earth are the dry, cold deserts in Antarctica. Some places in Antarctica haven't received any rain for 4 million years, although they do receive a little water from the mountains when some of the snow melts. There are even lakes in these deserts, with thick layers of ice on them. This ice almost never melts. These cold deserts are even more difficult to live in than hot deserts are.

Where the snows never go away on the land in cold deserts, there is nothing to eat. The ground may be far down under the snow, and may be frozen in any case. Insects may get blown onto the snow fields, birds may fly over them, but these areas are essentially lifeless. For much of the year all the water is frozen, and so, for living creatures, thirst is also a problem.

However, despite the challenging conditions on the land, animals that are dependent on the ocean can live on its shores. Penguins eat krill, octopus and fish: they congregate on the cold shores of the Antarctic to raise their babies. Migrating birds come to some parts of the tundra to raise their young. Seals live on fish in the arctic ocean, and polar bears prey on the seals. Walruss dig for clams on the sea bottom with their long tusks.



Glossary

Peaks: very high points

Walrus: a kind of large seal

Clam: a type of shellfish

Krill: a small shellfish like a shrimp (*camarones*)

Text 3

1. In which 2 places can cold deserts be found? (1 mark)

2. Write 2 sentences to explain why animals on the land in cold deserts are hungry and thirsty. (2 marks)

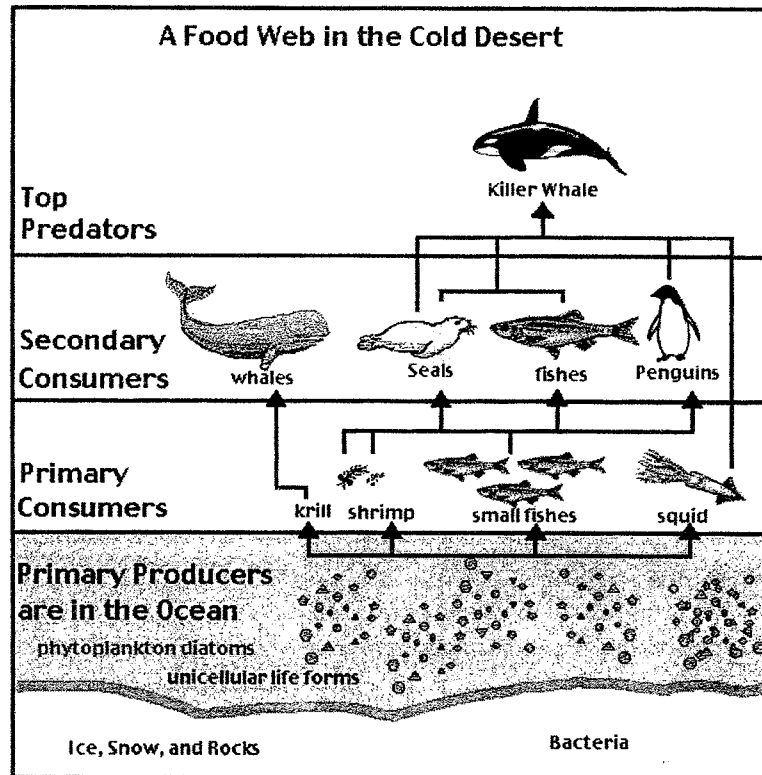
3. Why is it possible for there to be life near the ocean shores? (2 marks)

4. What do penguins and migrating birds have in common? (2 marks)

5. Explain in your own words how walrus get their food. (1 mark)

Food Chains in the Desert

This food chain is an interesting one. The animals that live in cold deserts find their food in the ocean. Some of the top predators go onto the land to rest or reproduce, but the food that they eat is in the icy waters.



Food Webs in the Hot Desert



Life in the hot, dry desert is difficult, requiring adaptations from both animals and plants. The food web is therefore a simple one.

Desert plants are the **primary producers**. Animals that live in the desert feed on the plants' seeds, flowers, and juicy bodies and leaves.



a kangaroo rat

The plant-eating animals are the **primary consumers**. Insects, mice and kangaroo rats feed on desert plants like sage brush and cacti. These warm-blooded animals hide from the heat in burrows, and come out at night to feed.

Reptiles are "cold blooded" and they can survive on only a little food. The warmth of the desert sun heats their bodies so that they can move quickly. These **secondary consumers** eat the plant eaters. Lizards eat insects and snakes eat insects and little desert rodents such as deer mice and kangaroo rats. Scorpions and tarantulas also eat insects. They have exoskeletons, which help them to conserve moisture.

In parts of the desert where there is more moisture there are more plants, such as sage brush and tree sized cacti. These parts may be home to desert foxes and **hawks**. These **top predators** manage to survive by eating lizards, snakes and rodents.

Glossary: hawks: birds of prey

Text 4

1. Look at the diagram: *A Food Web in the Cold Desert*. Use the information to answer the questions below.

1. Name 2 life forms which provide food for:

a. Whales _____

b. Penguins _____

(2 marks)

2. Name 2 secondary consumers that eat small fishes. (1 mark)

2. Use all the information from *A Food Web in the Hot Desert* about primary producers, primary consumers, secondary consumers and top predators to make a food web in the space below. (8 marks)

Top predators
Secondary Consumers
Primary Consumers
Primary Producers