

# HISTORY & GEOGRAPHY

STUDENT BOOK

▶ **4th Grade** | Unit 3

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# HISTORY & GEOGRAPHY 403

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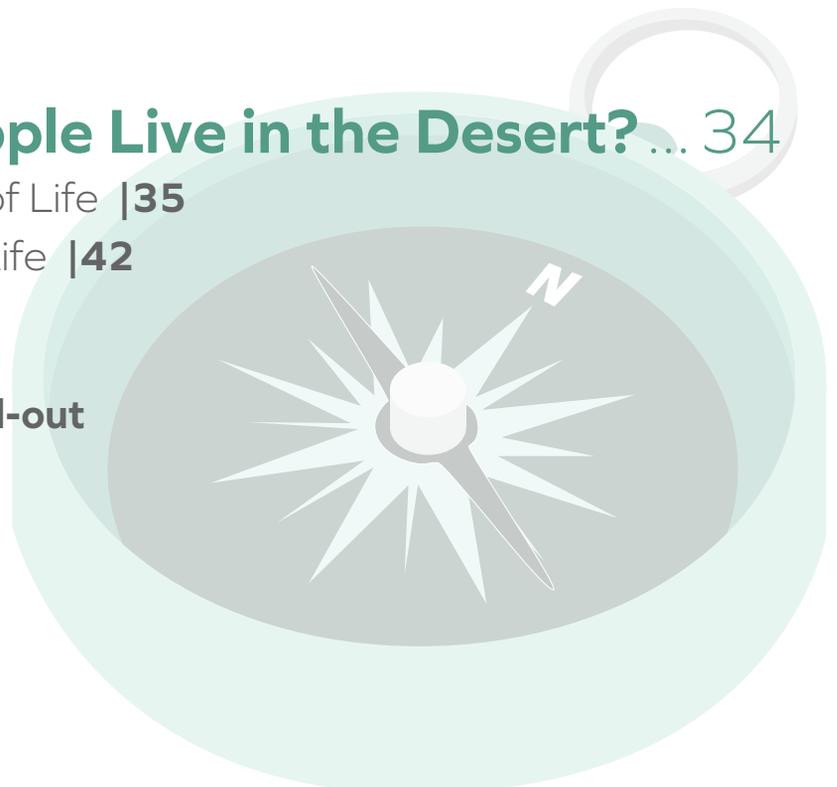
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LIFEPAC Test |Pull-out



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# DESERT LANDS

Deserts are very dry places. They are found all over the world. In this LIFEPAK® you will learn to find the world's deserts on a map. You will learn about the animals and plants that live in the deserts. You will learn about the minerals that are found there. You will also study some of the peoples who live in the desert. Life is hard in the desert, and you will learn why.

## Objectives

**Read these objectives.** The objectives tell you what you will be able to do when you have successfully completed this LIFEPAK. Each section will list according to the numbers below what objectives will be met in that section. When you have finished this LIFEPAK, you should be able to:

1. Locate seven of the great deserts of the world on a map.
2. Know the continents and some map features.
3. Explain how moisture is blocked from reaching a desert.
4. Explain how plants and animals live in the desert.
5. Describe seven of the major deserts of the world.
6. Describe the traditional ways of life in the desert.
7. Know the names and locations of some desert people.
8. Explain how modern inventions help people to live in the desert.

# 1. WHAT IS A DESERT?

A desert is a place where very little rain falls and very few plants grow. Most deserts are very hot, too. Very few plants and animals can live in a desert because of the heat and lack of food.

Even in the desert, however, God has created life. Special plants and animals can live in the hot, dry deserts of the world. People, also, have learned how to live in the desert. They use the plants and animals God put there to help them survive.

## Objectives

**Review these objectives.** When you have completed this section, you should be able to:

2. Know the continents and some map features.
3. Explain how moisture is blocked from reaching a desert.
4. Explain how plants and animals live in the desert.

## Vocabulary

**Study these new words.** Learning the meanings of these words is a good study habit and will improve your understanding of this LIFE PAC.

**barren** (bar ən). Not able to produce much.

**burrow** (bər' ō). Not able to produce much.

**cactus** (kak' təs). A fleshy plant with spines instead of leaves that grows in hot, dry regions of America.

**dew** (dü). Moisture from the air that collects on cool surfaces at night.

**domesticate** (də mes' tə kā t). To make a wild animal tame.

**dune** (dün). A hill of sand heaped up by the wind.

**evaporate** (i vap' ə rāt). To change from a liquid into a gas.

**fog** (fog). Thick mist.

**hibernate** (hī' bər nāt). To spend part of the year sleeping, or dormant.

**moisture** (mois' chər). Water spread in very small drops in the air or on a surface.

**preserve** (pri zèrv'). To prepare food to keep it from spoiling.

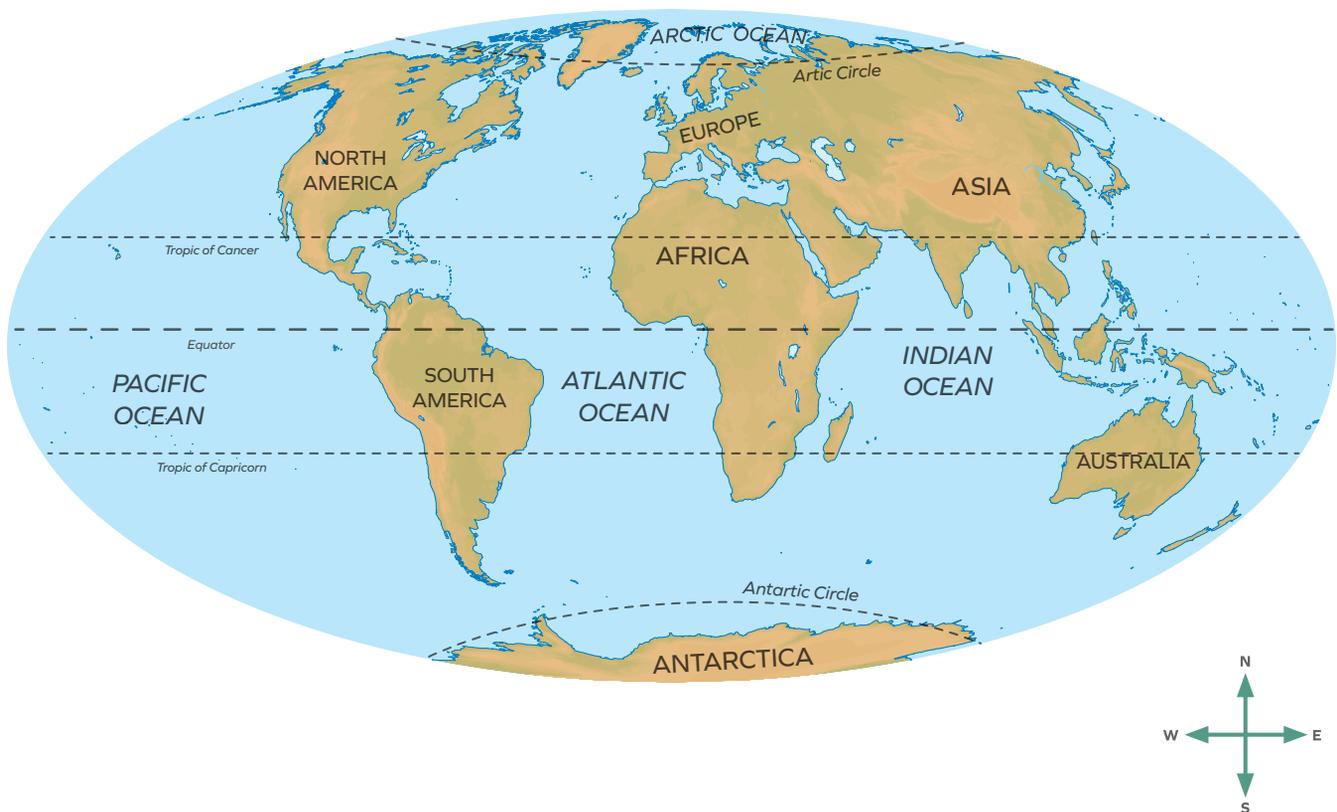
**rodent** (rōd' nt). Any of a group of animals with large front teeth that are used for gnawing. Includes rats, mice, and squirrels.

**Tropic of Cancer** (trop' ik uv kan'sər). An imaginary line north of the equator that marks the northern boundary of the tropical zone.

**Tropic of Capricorn** (trop' ik uv kap' rə kôrn). An imaginary line south of the equator that marks the southern boundary of the tropical zone.

**Note:** All vocabulary words in this LIFEPAK appear in **boldface** print the first time they are used. If you are unsure of the meaning when you are reading, study the definitions given.

**Pronunciation Key:** hat, āge, cāre, fār; let, ēqual, tērm; it, īce; hot, ōpen, ôrder; oil; out; cup, pūt, rüle; child; long; thin; /TH/ for then; /zh/ for measure; /u/ or /ə/ represents /a/ in about, /e/ in taken, /i/ in pencil, /o/ in lemon, and /u/ in circus.



**Map hint:** The easiest way to learn directions is to remember that when you face north, south is behind you, east is towards your right hand, and west is toward your left. This works for east and west when you are looking at a map with north at the top, also.



**Use the map to answer the following questions.**

Answer each with north, south, east, or west.

- 1.1 Antarctica is \_\_\_\_\_ of Africa.
- 1.2 The Pacific Ocean is on the \_\_\_\_\_ side of North America.
- 1.3 The Tropic of Cancer is \_\_\_\_\_ of the Equator.
- 1.4 Asia is \_\_\_\_\_ of Europe.
- 1.5 The Tropic of Capricorn is \_\_\_\_\_ of Asia.
- 1.6 The Indian Ocean is on the \_\_\_\_\_ side of Africa.Hemisphere.

## Description of Deserts

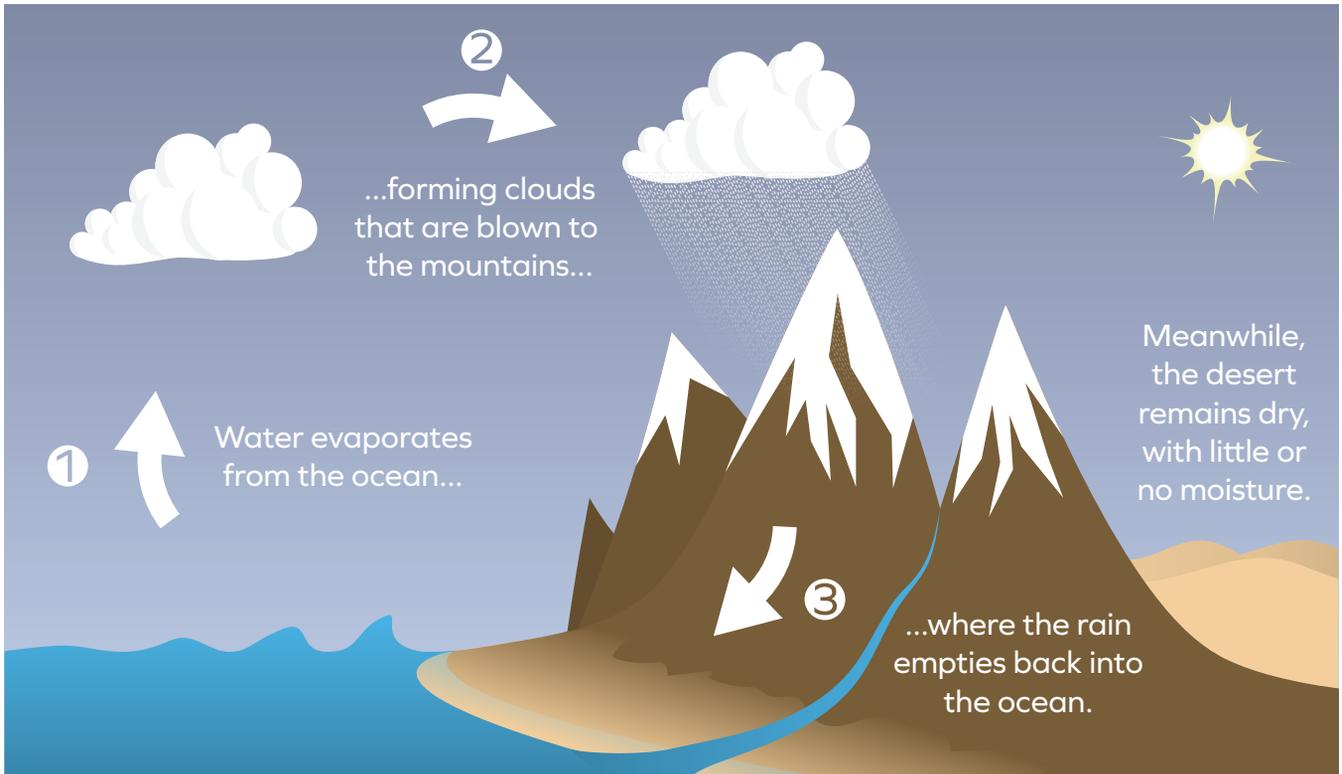
Scientists usually call a place a desert if it only gets 10 inches (25 centimeters) or less of rain in a year. Most places get much more rain than that. For example, Chicago, Illinois gets 20 to 40 inches of rain a year, and New York City gets 40 to 60 inches a year. This lack of rain means there is very little **moisture** in a desert.

Moisture in the air acts like a blanket. It keeps the heat out in the daytime and the warm air in at night. The desert, however, does not have a moisture blanket. Therefore, deserts get very hot in the daytime and very cold at night. Deserts often change 25° or more between night and day, so a person might be wearing a T-shirt during the day but need a heavy coat at night.

Deserts can be cold or hot, but most are hot because they are near the equator. On our earth, things nearer the equator are hotter, while things further away are cooler. The North and South Poles are cold because they are as far away from the equator as it is possible to be.

Deserts form when something stops moisture from reaching that place. Moisture is carried by clouds. Usually mountains stop the clouds from bringing their rain to the desert. Also, as air moves around the earth it tends to create areas of high and low rainfall. The biggest areas of low rain are along the line of the **Tropic of Cancer**, north of the equator and the **Tropic of Capricorn**, south of the equator.

(Remember: Capricorn is a bigger word and sinks to the bottom, or south).



### | Mountains can cause deserts

Moisture gets into a cloud when it **evaporates** from a big lake or ocean. The wind blows the clouds toward the mountains. The clouds have to go up and over the mountains to reach the desert on the other side, but the moisture in the clouds falls out as it gets cooler going up the mountain. Thus, by the time the clouds get to the other side of the mountain there is very little moisture left. In fact, often there is no cloud left at all. The desert is the *rain shadow* of the mountain.

Without any moisture, very few plants can grow in the desert. Plants keep soil from being blown or washed away, so deserts are often covered with loose sand or rocks because much of the soil has been blown away. Strong winds can cause dust or sand storms that block out the sun and make it hard to see or breathe. Sometimes the sand can be blown into big piles like snowdrifts. These are called **dunes**.



**Put the correct word in the blank.**

- 1.7** Very little rain falls along the Tropic of \_\_\_\_\_  
or the Tropic of \_\_\_\_\_ .
- 1.8** A desert usually receives \_\_\_\_\_ or less inches of rain in a year.
- 1.9** Deserts are often covered with loose sand or \_\_\_\_\_ .
- 1.10** Deserts are often found behind mountains in the mountains'  
\_\_\_\_\_ .
- 1.11** Very few animals can live in a desert because of the heat and lack  
of \_\_\_\_\_ .
- 1.12** Moisture in the air acts like a \_\_\_\_\_ , keeping heat  
in at night.

## Life in the Desert

People and animals can live in the desert if there are enough plants. Some parts of the desert get only one inch of rain in a year. No plants grow there, and almost nothing else can live there. Other parts of the desert get enough rain for special desert plants to grow. People and animals can use these plants to survive.

**Desert plants.** God created very special plants that can live in a desert. These plants were created to use the little moisture of the desert very carefully, so most deserts are not big, empty piles of sand. Usually there are plants, often many plants. They grow far apart so they don't have to share any moisture.

God thought of many ways to help plants survive in the desert. All plants collect water through their roots. Some desert plants have roots that spread way out to get all the water they can when it rains. Other plants put down very deep roots to reach water under the ground. Some plants have leaves that collect **fog** or **dew** and drop the moisture for their roots to get. Other plants grow from seeds only when it rains. They grow, produce seeds, and die quickly. Their seeds will not grow until the next rain.

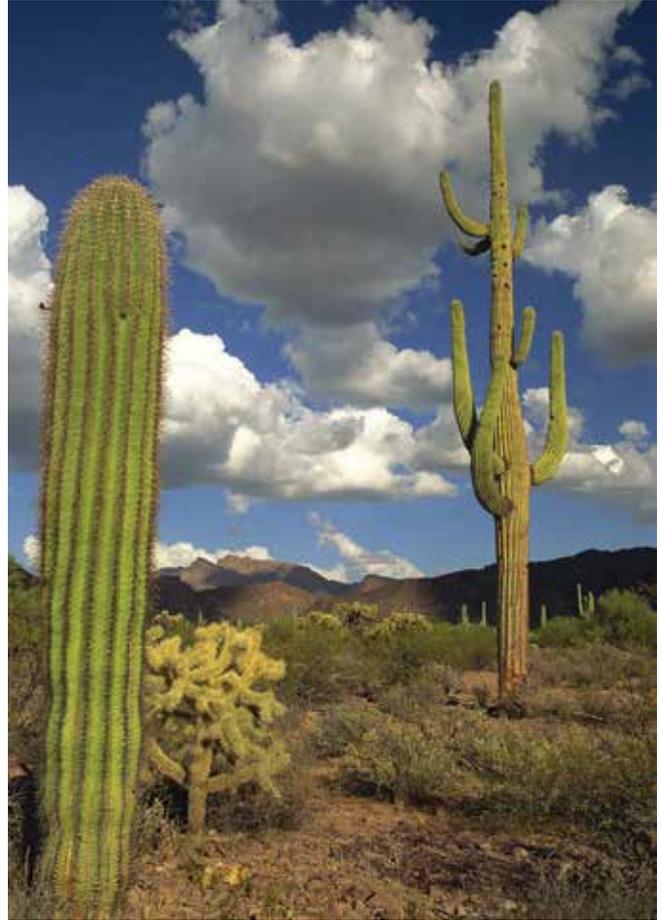
The desert plant most people know about is the **cactus**. They are found in the deserts of North and South America. A cactus does not have leaves like a tree because moisture evaporates from leaves. Instead, cacti are covered with a waxy coating that keeps moisture inside. The inside of a cactus is like a big sponge. When it does rain, the cactus soaks up the water and stores it to use when it is dry. The cactus is covered with sharp spines or needles to keep animals from getting the water inside.

There are many kinds of cacti. The saguaro may grow to be 60 feet (18 meters) tall and has arms that make it look like a person being held up by a robber. The prickly pear cactus grows small, paddle-shaped arms and a pear-shaped fruit that is good to eat. The barrel cactus is shaped like a barrel and covered with hard, curved spikes. Cacti grow beautiful flowers for a very short time when there is enough rain.

The mesquite is another desert plant. It is a small tree which sends its roots deep into the soil to collect every bit of water it can find. It has small, waxy leaves that do not lose much moisture. Some animals can eat the leaves. People can use the wood for fuel and to build things. They also grind the mesquite beans into flour to use for food.

Another useful desert plant is the date palm. It grows in the deserts of northern Africa and western Asia. Date palms grow near a source of water called an **oasis**. They can be used for food, shade, and fuel for fires.

Dates are the food grown by the palm trees. They are a very sweet fruit. They are easy to dry and **preserve**. They can be pressed into cakes which are easy for travelers to carry. Dates are an important source of food for the desert people.



| Cactus

People can also use other parts of the date palm. The leaves can be used to make baskets or mats. Rope can be made from the bark. The tree can be used to build shelters. Even the pits from the dates can be used as fuel for a fire or food for animals. God cleverly made many plants that can grow in the desert by making good use of the little moisture there. Thus, God provides for men and animals even in the driest places.

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**Match these words with the correct description.**

- |      |                   |                         |
|------|-------------------|-------------------------|
| 1.13 | _____ cactus      | a. make baskets or mats |
| 1.14 | _____ mesquite    | b. puts down deep roots |
| 1.15 | _____ date        | c. sweet fruit          |
| 1.16 | _____ palm leaves | d. inside like a sponge |



**Name four ways God made plants able to live in a desert.**

- 1.17
- a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_



**Do these activities.**

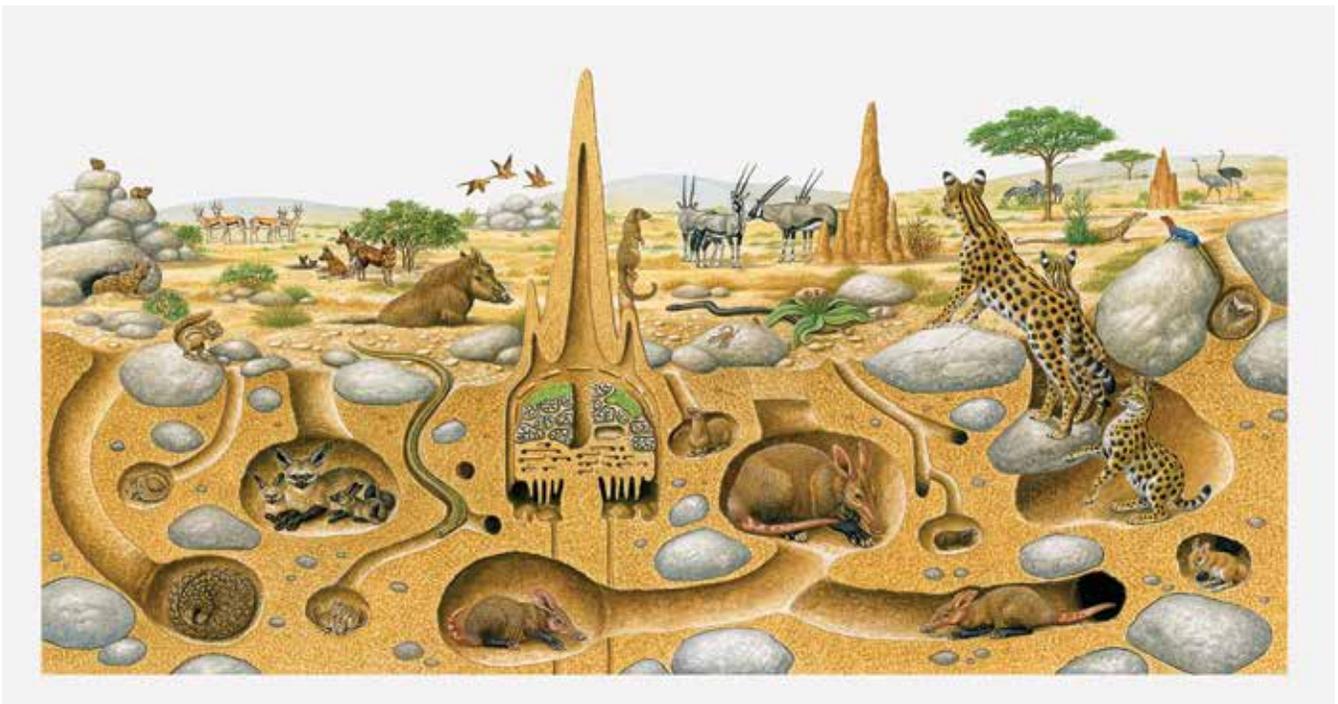
See if someone in your class can bring in some dates for the class to eat. Discuss the taste. Talk about what it would be like to eat dates every day.

**Desert animals.** Many wild animals make their homes in the desert. God created these animals especially to live in the desert. Most of these animals are small. They are small so they do not need much food and they can easily find shade from the sun. Most of the animals hide in a **burrow** or under rocks and shrubs during the daytime. They come out to find food at night when it is cooler. There are fewer animals in a desert because there is less food for them to eat.

Desert animals can go without water for days. Some, like the kangaroo rat, do not need to drink water at all. They get all the moisture they need from the food they eat.

Desert animals have many ways to live in their harsh home. The sandgrouse, an African desert bird, can soak up water in its feathers to bring to its babies in the nest. Desert hares have large ears that take extra heat away from their bodies. A desert chameleon in Africa turns white in the hottest part of the day, to reflect sunlight away. A tortoise in Asia is active only a few months of the year, when the rain has made the desert green. The rest of the year it **hibernates** underground. Many bigger animals, like antelope and gazelles, live by traveling around constantly to search for food.

Desert animals eat many kinds of things. The kangaroo rat lives on seeds and plants. The horned lizard eats insects. The rattlesnake and the coyote hunt small **rodents** and rabbits that live in the desert. So, there is food in the desert. It is just hard to find.



| Desert animals that live in or above burrows.

The most useful desert animal is the camel. The camel is a **domesticated** animal that comes from Africa and Asia. People use them to carry heavy loads across the desert. The camel was created by God to survive in the desert.

Camels have wide hoofs that allow them to walk on top of sand. Their nostrils are small slits which can be closed to keep out sand during a storm. They also have extra eyelids, and hair covering their ears, to keep out the sand. They have big humps on their backs which store fat, so they can go many days without eating. They do not need much water, either, because they can get moisture from the food they eat, and they do not lose much moisture by sweating. The camel can also store a lot of water in its stomach.

Desert people used the camel for food. They ate its meat and drank its milk. Its hide and hair were used for clothes, blankets, and leather goods.

Camels can carry heavy loads of up to 400 pounds (180 kilograms), but they do not like to work. They will bite, kick, or spit at people when they are mad, but desert people needed and used them anyway. The camel is called the "ship of the desert," because it carries things back and forth across the desert as ships do on the sea. The camel was a very useful animal for people who lived in the desert before the invention of cars and trucks. Even today, camels can cross deserts without the roads trucks need. Then again, the trucks do not bite!



| Person riding a camel near the Great Pyramids, Egypt.



**Match these words with the correct description.**

- |             |                     |                                               |
|-------------|---------------------|-----------------------------------------------|
| <b>1.18</b> | _____ kangaroo rat  | a. eats insects                               |
| <b>1.19</b> | _____ camel         | b. carries water to the nest in its feathers  |
| <b>1.20</b> | _____ antelope      | c. drinks no water, eats seeds                |
| <b>1.21</b> | _____ horned lizard | d. domesticated                               |
| <b>1.22</b> | _____ sandgrouse    | e. moves around constantly to search for food |
| <b>1.23</b> | _____ coyote        | f. eats rodents and rabbits                   |



**List some of the things that make the camel the “ship of the desert.”**

- 1.24**
- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_



**Do this activity.**

- 1.25** Find a book about deserts and choose a desert animal from it. (Not a camel). Write a report on that animal.



**Teacher check:**

Initials \_\_\_\_\_ Date \_\_\_\_\_



**Review the material in this section to prepare for the Self Test.** The Self Test will check your understanding of this section. Any items you miss on this test will show you what areas you will need to restudy in order to prepare for the unit test.

## SELF TEST 1

**Answer true or false** (1 point each answer).

- 1.01 \_\_\_\_\_ Camels are gentle animals, easy to work with.
- 1.02 \_\_\_\_\_ Desert hares have large ears that carry away heat from their bodies.
- 1.03 \_\_\_\_\_ Cacti are covered with poison to keep animals from eating them.
- 1.04 \_\_\_\_\_ Some desert plants grow and produce seeds quickly after a rain.
- 1.05 \_\_\_\_\_ Strong winds in the desert cause dust or sand storms.
- 1.06 \_\_\_\_\_ Deserts are always hot.
- 1.07 \_\_\_\_\_ Desert plants are just like plants in wetter places.
- 1.08 \_\_\_\_\_ Food is hard to find in the desert.
- 1.09 \_\_\_\_\_ Desert plants do not produce food people can eat.
- 1.010 \_\_\_\_\_ Desert people ate camel meat.

**Match these items** (2 points each answer).

- |       |       |              |    |                                                  |
|-------|-------|--------------|----|--------------------------------------------------|
| 1.011 | _____ | cactus       | a. | eats rodents and rabbits                         |
| 1.012 | _____ | date palm    | b. | moves to find food                               |
| 1.013 | _____ | kangaroo rat | c. | has an inside like a sponge                      |
| 1.014 | _____ | oasis        | d. | to change from liquid to gas                     |
| 1.015 | _____ | antelope     | e. | a hill of sand piled up by the wind              |
| 1.016 | _____ | mesquite     | f. | produces fruit and leaves for mats               |
| 1.017 | _____ | dune         | g. | eats seeds, does not need water                  |
| 1.018 | _____ | burrow       | h. | hole in the ground, animal's home                |
| 1.019 | _____ | rattlesnake  | i. | small desert tree with deep roots                |
| 1.020 | _____ | evaporate    | j. | a green place in the desert where there is water |

**Fill in the blank with the correct word from the list.** (3 points each answer).

roots	Cancer	Capricorn	fog
Equator	saguaro	rocks	blanket
prickly pear	moisture	mesquite	

- 1.021** The line of low rainfall north of the equator is the Tropic of \_\_\_\_\_.
- 1.022** The line of low rainfall south of the equator is the Tropic of \_\_\_\_\_.
- 1.023** Name two kinds of cactus: \_\_\_\_\_ and \_\_\_\_\_.
- 1.024** Moisture in the air acts like a \_\_\_\_\_ to keep a place warmer at night.
- 1.025** Places on earth are hotter as you get closer to the \_\_\_\_\_ and cooler as you get further away.
- 1.026** Deserts are covered with loose sand or \_\_\_\_\_.
- 1.027** Some desert plants collect \_\_\_\_\_ on their leaves, which drops to their roots.
- 1.028** Deserts form when something stops \_\_\_\_\_ from reaching that place.
- 1.029** Desert plants sometimes have deep or spread out \_\_\_\_\_ to find water.

**Answer these questions** (5 points each answer).

**1.030** What does it mean to say that a desert is in the rain shadow of a mountain?

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**1.031** Name three ways the camel was created by God to be the “ship of the desert.”

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_

**1.032** What is a desert?

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**1.033** What is there for animals to eat in the desert?

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_



**Teacher check:**

Score \_\_\_\_\_

Initials \_\_\_\_\_

Date \_\_\_\_\_





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