DESERTS: FRAGILE EXTREMES

1 What is the first thing that comes to your mind when you hear the word *desert*? Most people will see images of hot, windswept sand dunes in their heads. However, deserts are a lot more than just sand and heat. Did you know that about one fifth of our planet is classified as desert? More importantly, did you know that sand only covers 20% of the world's deserts? Or that the world's largest desert is in Antarctica — one of the coldest places on Earth? This means there's a lot of desert out there that doesn't fit the popular image described above.

2 A desert is an area of land that is so dry that it actually loses more water than it gains each year. Air moisture reflects a lot of rays from the sun, stopping heat from being absorbed into the ground. In deserts, however, there is almost no moisture, so all of the heat enters the ground and daytime temperatures can soar to above 50° Celsius. Since there is little moisture in the air, clouds are rare. With little or no clouds to act as insulation, it gets very cold at night. It can easily drop to below freezing in some places.

3 Hot or cold, windy or still, deserts are all about extremes. These extremes make people think that deserts are harsh, lifeless places where nothing could ever survive. In fact, the word *desert* comes from the Latin word meaning 'abandoned place'. This is a big mistake. Deserts are teeming with life amidst a fragile ecosystem.

4 The way that animals and plants interact with each other and their environment (which includes rocks, soil, water and the weather) is called an *ecosystem*. A desert, just like any other type of area, has its own special ecosystem. The plants and animals are specially equipped to live there.

5 Rain is one of the most important features of the desert ecosystem. Since it doesn't rain that often, desert life has had to adapt so it survives in extreme aridity. Plants will grow very long taproots so they can draw water from deep underground. Much of the desert flora is *succulent*, which means they are plants that store water inside them so they are able to survive during long periods of drought.

6 Desert animals are even more complex. Animals, such as the Australian marsupial mole and the American round-tailed ground squirrel, burrow underground and only come out when it's not too hot or cold. In the case of the ground squirrel, this can mean hibernating for many months. Other desert fauna do not need to drink water — they eat succulent plants and berries that hold enough water to keep the animal alive. If you still think deserts are lifeless, just wait until it eventually rains. The landscape comes alive with all sorts of creatures emerging to quench their months-long thirsts.

7 Humans are now playing a role in desert ecosystems. A farm is probably the last thing you'd expect to see in a desert, but there are desert farms in Australia and all over the world. There are a number of ways to make desert farming possible. Crops can be covered with plastic tunnels to stop water from evaporating into the dry desert air. Water can be brought to crops by tapping nearby rivers or drilling for underground water, although underground water is often too salty for many types of crops.

8 Perhaps the most unusual type of farming for the desert is fish farming — called *aquaculture*. Salty underground water is pumped into above ground pools. Many types of fish thrive in this warm, slightly salty water. The big advantage of desert aquaculture farms over coastal farms is that the fish are isolated and therefore protected from diseases that are often spread through ocean water.

9 The latest discovery is the combination of desert aquaculture with desert agriculture. Water that has been used to farm fish is high in nutrients, because of fish waste, and is perfect for use on crops.

10 Deserts have been dealt much harm in the past through poor mining and farming

practices, as well as the introduction of non-native animals and plants. Thankfully, people have become better educated about the delicate balance in deserts around the world. Farming practices are a lot more environmentally safe and communities now take great care to protect their native animals from invasive species.

11 As we learn more about deserts, it becomes more and more important to work with their sense of balance. In understanding the balance at the heart of these precious ecosystems, we will be able to make better use of them without destroying their beauty.

Questions

1 What word describes the world's largest desert?
- a hot
- b sandy
- c cold

2 *Desert* comes from the Latin word meaning
- a place of extremes.
- b abandoned place.
- c dry place.

3 How does a succulent plant survive in a desert?
- a It stores water inside itself.
- b It has long taproots.
- c It only appears when there is rain.

4 What is bad about underground water in the desert?
- a It is very rare.
- b It is very salty.
- c It evaporates very quickly.

5 Aquaculture is
- a fish farming.
- b succulent farming.
- c growing plants without rain.

6 If you were a botanist, what information would you find to be the most useful in this article?
- a information about the marsupial mole
- b information about cold deserts
- c information about desert flora

Vocabulary

Find words in the text that match the meanings below. The word is in the section shown in brackets.

7 Mental picture (1)
8 To work together (4)
9 Alter to suit a new situation (5)
10 The animals in or of a certain place (6)
11 To satisfy your thirst (6)

Grammar

***Adverbs** describe how, when or where an action was done. They often end in **ly**. Find an **adverb** in these sentences.*

12 It can easily drop to below freezing.
13 Crops can be adequately covered.
14 The plants and animals are specially equipped to live there.
15 Just wait until it eventually rains.

Back To The Text...

16 Writers use emotive language to persuade the reader. Which word below, from section 10, is emotive?
- a educated
- b invasive

17 What would be a good sub-heading for section 5?
- a A Thirsty Ecosystem
- b Aquaculture

18 Key words are important words that help you understand the main ideas. Which of the following is a key word in section 4?
- a rocks
- b ecosystem

Cloze

Sahara

*Choose **five** of the following words to complete this cloze passage.*

kilometres deserts storms most recorded sand eleven temperature

The Great Desert, as the Sahara is called, lies across ___19___ of North Africa. It is the second biggest desert after Antarctica. It crosses ___20___ countries and nine million square ___21___. This massive expanse of sand is home to the biggest ___22___ dunes in the world. The Sahara also lays claim to the hottest temperature ever ___23___, 58°C in the shade. Ouch!

Challenge Option

Design: Draw your own map of a desert-dwelling community.