Listening (script)

You will hear a lecture on desert plants. First you have some time to look at questions 1-10. You will hear the text twice.
Pause 1 min.
Now listen carefully and answer questions 1-10.

In today's lecture, I'm going to continue our work on plants and talk about plants that live in the desert. Now, just a bit of background information first. As you know, about a third of the world is covered in desert, and the sort of area they're found in is important. Deserts are usually created because the area of land where they lie is located in something that's called a 'rain shadow'. Now, this is a region that's beneath a mountain range, and what happens is that the wind blows over the mountains towards the area, but as it does so, the air loses its moisture and becomes very dry.

Because of this 'downwind' location, rainfall often totals just a few inches a year or, in some regions, there's absolutely none. And you can imagine the effect of this ... It means that whatever rain does fall evaporates quickly from the ground, and that makes the soil salty ... and also leaves behind a whole range of other minerals as well.

Now, despite this, deserts are home to many living things. In fact, they're second only to tropical rainforests in the variety of plant and animal species that live there.

So, how do plants grow in a place that's so dry? Well, they're specially adapted to do this. In fact, many of the fascinating features of desert plants are adaptations – these are traits that help the plant survive in its harsh environment. And desert plants have two main adaptations: the first is that they have an ability to collect water and to store it. Some have large root systems and amazing internal water-storage systems. The second adaptation is that they have features that can actually reduce water loss ... and these are often very special leaf designs or additions to the plant structure.

So let's have a look at some examples. Desert plants often look very different from any other plants ...

OK. This first one is the Saguaro Cactus, which grows in North America. It looks a bit like an open hand with long fingers. This plant has a large network of roots that extend far, far away from its trunk, and these roots collect water after rain, then the water's taken here to the green stem. This is where all its water is kept, and it keeps the whole plant alive until the next rain comes. It's a pretty, woody plant – in fact, um, its skeleton is actually used in building materials, so it's quite strong.

This next plant is called the Barrel Cactus – named because it does look rather like a barrel. It can grow up to a metre in height, which is pretty big, and it has long, yellow spines. Now, this plant has an interesting adaptation because its shape allows it to expand when it rains – hence the barrel – and store water in its spongy tissue. But then it shrinks in size during dry times as it uses the stored water. So that's a clever design.

This third cactus – often just one plant reaching upwards – has these white hairs all over its surface. It's called the Old Man Cactus because of the white hairs, and these help the plant reflect the hot desert sun. So this adaptation is a water conservation aid if you like.

Another adaptation not directly connected with water but with survival is found on something like the Prickly Pear Cactus. There are hundreds of these in the Mexican desert. I'm sure you've seen them on films and adverts ... Um, yes, so because desert plants store water in their spongy tissue, animals will eat them. So the plant has sharp thorns specially designed to prevent the predator from being able to – well, get near it at all.

Our next plant is called the Desert Spoon. This plant has long leaves that fan out, and they're very succulent because they can also store water inside. However, they're also usually very tough, and this helps keep the water inside and also makes them less tasty.

Finally, we come to the Aloe Plant. This is one that many people keep in their homes. It's an attractive plant which has leaves that look and feel rather waxy. This surface behaves in a similar way to a plastic wrapper and helps the plant to hold the water in. It's a wonder plant, this one. Its juice has been used as a medicine for centuries, and even today, you can find it in products on the pharmacists' shelves or in creams and lotions.

OK ... well, we're going to take a closer look ...

Pause 15 sec.
Now you will hear the text for the second time.
Text repeated.
Now you have some time to check your answers and transfer them to your answer sheet.
Pause 1 min.
This is the end of the listening section.