**Unit 1 Zebras and Horses**

Are zebras just horses with stripes? No, they are not. Zebras and horses are from the same animal family. But they are very different.

Both zebras and horses have large bodies and strong legs. But zebras are smaller and lighter than horses. Zebras have black-and-white stripes. Horses can be white, gray, black, brown, or a mixture of these colors.

Horses’ ears are small and pointy. But zebras’ ears are bigger and rounder. While zebras’ manes are short and spiky, horses’ manes are long. Zebras’ tails have short hair only at the end. However, horses have long hair on their whole tails.

Horses are faster and can run farther. But zebras are good at sprinting in zigzags. They run this way to avoid predators. Maybe that is why people ride horses, not zebras.

**Unit 2 A Giant Rat**

Rats and mice are well-known rodents. They are small animals with long tails. One rodent, however, is not small and has no tail. It can weigh up to 65 kilograms and grow to be 1 meter long. It is the capybara, the world’s biggest rodent.

Like most rodents, the capybara’s front teeth never stop growing. The capybara wears them down by eating tough plants. But tough plants are hard to digest. So the capybara digests its food twice. How? By eating its poop. This way, the capybara gets more out of its food.

The capybara lives near fresh water and loves swimming. It has webbed toes to paddle around in water. Its eyes and ears are high on its head. So they can stay above water. This way, the capybara can watch for predators even in water.

**Unit 3 Great Museums**

Museums are full of wonders. They have ancient artifacts, beautiful artwork, and other interesting items. There are many museums around the world. Here are three great museums.

The Louvre Museum is in Paris, France. It is the largest museum in the world. It has more than 380,000 items. Leonardo da Vinci’s *Mona Lisa* is one. The Louvre Pyramid is another great work of art.

The Egyptian Museum in Cairo has 120,000 ancient Egyptian artifacts. Its Royal Mummy Room displays mummies, coffins, and many other things. It includes the gold death mask of King Tutankhamen.

In Vatican City, the Vatican Museums have 54 galleries. The Sistine Chapel is one of them. Its whole ceiling is covered with paintings by the famous artist Michelangelo. These paintings tell old Bible stories.

**Unit 4 A Missing Painting**

It was a quiet night in 1911. The museum was finally closed. All the visitors left, and the museum employees returned home. In the darkness, someone took a painting off a wall. Then, the person quietly left the museum with the painting.

Newspapers around the world posted pictures of the missing painting. People visited the museum just to look at the empty space on the wall. The police searched everywhere but had no luck.

Finally, in 1913, the police caught and arrested the thief. And the painting was safely returned to the museum. Before the crime, the painting was not well known. But after the crime, it became the world’s most famous painting.

Today, the *Mona Lisa* remains at the Louvre Museum in Paris, France. Millions of people visit the Louvre each year just to see it.

**Unit 5 Farmers’ Circles**

What makes these circles? Water-wheels do!

What is a water-wheel? It is a kind of watering machine. Like a compass, a water-wheel moves around in a perfect circle.

A water-wheel has a pump and a motor in the middle. They are like the needle of a compass. The pump sucks water out of the ground. Then it sends water to its long arm. The arm is like the pencil and has many sprinklers. The motor moves the arm in the shape of a circle. This way, the sprinklers can water large areas.

Farmers control the water-wheel with a smartphone. They can spray more water on sunny days. They can spray less water or turn it off on cloudy days. This is how they save water.

Water-wheels do not need many workers. Farmers can save time and money. How great!

**Unit 6 Strawberries All Year Round**

What has seeds on the outside? Strawberries! People want this delicious fruit all year round. But strawberries in nature do not grow all year. Thankfully, there are vertical farms.

Strawberries do not grow in the ground on a vertical farm. Imagine a library. Instead of books on the shelves, there are strawberries. This is a vertical strawberry farm.

Vertical farms are indoors. Instead of sunlight, they use LED lights. Farmers can control the light and water indoors. So strawberries can grow big and juicy.

On a vertical farm, many layers of strawberries can grow at the same time. And they can grow any time of year.

Some vertical farms have special shelves. They move up and down. This makes picking really easy. Even small children can pick their own strawberries.

Vertical farms do not need much space. So, there could be one near you!

**Unit 7 Volcanoes in a National Park**

Hawaii has many national parks. They protect Hawaii’s beautiful, wild nature. One national park protects something very amazing. It protects active volcanoes. Active volcanoes can erupt anytime.

Hawai’i Volcanoes National Park is on the Big Island of Hawaii. There are two volcanoes: Mauna Loa and Kilauea.

Mauna Loa is the biggest active volcano in the world. It is 4,169 meters high. Alone, it makes up more than half of the Big Island.

Kilauea is smaller but much more active. One of its eruptions started in 1983 and ended in 2018. After that, it erupted again in 2020.

A lot of people visit Hawai’i Volcanoes National Park each year. People come to see active volcanoes up close. They also want to hike through the park’s rainforests and lava tubes.

**Unit 8 Unusual City Parks**

Not every park is a wide, open space on the ground. Some city parks are narrow, long, or above the ground. These parks were once old, unused empty spaces. But their cities turned them into unusual parks for everyone.

New York City turned an old railway into the High Line. It is about 2.3 kilometers long and 10 meters wide. Along the park, people can enjoy interesting sculptures, paintings, and other art.

Toronto has The Bentway. It used to be an unused space under a highway. But the city turned it into a lively park. In winter, the park becomes a long ice-skating trail.

Seoullo 7017 used to be an overpass in the center of Seoul. Now, it is a popular park with small gardens. The park is 17 meters above the ground. People can look down through glass manholes on the walkway.

**Unit 9 Your Skin Is Amazing!**

What is the largest organ in your body? Is it the heart or the lungs? Neither. It is the skin! Skin covers your entire body. Most skin is only 2 millimeters thick, but it does so much for your health.

Skin protects your body from harm. It blocks the hot sun and cold wind. It also keeps out tiny bugs.

Skin absorbs sunlight and produces vitamin D. Vitamin D keeps your muscles and bones healthy.

Skin helps you sweat. When you sweat, your body cools down to keep the right body temperature.

Skin gives you the sense of touch. You can touch and feel if something is soft, hard, smooth, or bumpy.

Take care of your skin. Eat a healthy, balanced diet. Drink plenty of water. And wear sunscreen before you go out in the hot sun.

**Unit 10 Beautiful Smiles**

Do you want to have a beautiful smile? Then it is important to have good, healthy teeth. Follow these simple tips. You can have a beautiful smile too.

Brush your teeth at least twice a day. It stops plaque from building up on your teeth. Plaque is a thin sticky coating with lots of dangerous bacteria. It causes tooth decay and gum disease. It also gives you bad breath. Yuck!

Brush your teeth correctly. Brush up-and-down and in small circles, not side-to-side. Brush for at least two minutes. But do not brush too hard. It can hurt your tooth enamel and gums. Try to floss before you brush. It will get rid of the spinach between your teeth!

Set a healthy routine. Change your toothbrush every three months. And visit a dentist every six months.

**Unit 11 Long-Distance Migrations**

Many animals travel every year. They travel to a place and travel back home. This is called migration. Animals migrate to find better places to live. And some migrate very long distances.

Porcupine caribou migrate very far on land. They live in Alaska, US and Yukon, Canada. In spring, they migrate north to find food. They spend summer there and migrate back in fall. They travel around 2,400 kilometers.

Monarch butterflies migrate farther. They live in eastern and western North America. Every fall, they travel south to Mexico or southern California. They return home in spring. They travel around 4,800 kilometers.

Arctic terns from Greenland and Iceland migrate the farthest. Each year, they migrate from the Arctic to the Antarctic and back again. They travel around 70,900 kilometers. That is like flying around Earth twice every year.

**Unit 12 The Red Crabs**

Christmas Island is in Australia. Every year, its roads become bright red. Millions of red crabs travel across the island. This is the Christmas Island red crab migration.

The Christmas Island red crab migration happens during the wet season. It usually starts in October or November. In these months, the crabs mate and lay eggs. However, they must travel from the forest to the ocean. Then they must travel back to the forest. It is a long and dangerous journey.

One major danger is cars. So people built many tunnels for the crabs. These tunnels are under the roads. There is even a very special bridge over a road. It is the only bridge in the world for crabs! Now the crabs can travel safely.

**Unit 13 Different Deserts**

You might think all deserts are hot and dry. Yes, all deserts are dry. But there are different types with all different weather.

Arid deserts are hot and dry. The Sahara Desert in Africa is one example. It is the largest hot desert in the world. It is hot all year long.

Semi-arid deserts have cooler weather. They have dry summers but rainy winters. The Gobi Desert in Mongolia is a semi-arid desert. It rains about 20 centimeters there every year.

The Atacama Desert in Chile is a coastal desert. Coastal deserts are near water. But they rarely get any rainfall.

Finally, there are cold deserts like Antarctica. It is the world’s coldest place. It does not rain or snow a lot there.

There are different types of deserts around the world. Not all deserts are the same.

**Unit 14 The Joshua Tree**

The Mojave Desert is a hot, dry desert. Few plants grow in it. But one tall tree can grow well there.

The Joshua tree can be 21 meters tall. It has twisted branches with spiky leaves. It looks strange but is important for desert animals.

The yucca moth pollinates Joshua tree flowers. Then, it lays eggs in the flowers. The larvae hatch and eat the tree’s seeds. The Joshua tree also grows fruit. It becomes food for kangaroo rats, jackrabbits, and other animals.

The tree helps other animals too. Many kinds of birds build nests in it. Lizards and snakes rest in the shade under the tree. And many animals hunt and eat the insects that live around it.

The Joshua tree is important to the Mojave Desert. Without it, many animals could not survive.

**Unit 15 Let’s Go Plogging!**

Do you like to jog? Do you care about the environment? Well, plogging might be the perfect activity for you!

Plogging is a type of eco-friendly exercise. You pick up trash as you jog. It started in Sweden in 2016. Plogging is a new word. It comes from the words “plocka upp” and “jogging.” “Plocka upp” means “pick up” in Swedish.

Plogging is simple to do. But it is great for you and the environment. All you need are comfortable running shoes, gloves, and a trash bag. You can go jogging or running anywhere you like. You can do it at a park or around your neighborhood.

Ask your friends to go plogging with you. It is always more fun with friends. You will get a good workout, and you will feel proud of your good work.

**Unit 16 From Trash to Treasure**

Did you know that we throw away millions of books each year? Americans alone throw away about 320 million books every year. In Turkey, some garbage collectors decided to do something about this.

Turkish garbage collectors kept finding books in the trash. Instead of throwing them away, they collected them. After a few months, they started sharing them with each other.

The book collection got bigger and bigger. Soon, it was big enough to open a library. At first, the library was just for workers. Later, it opened for everyone to use. Some people even donated their own books to the library.

Today, the library has over 60,000 books. It has children’s books and books in other languages too.

There is a saying that goes, “One man’s trash is another man’s treasure.” The garbage collectors made this so true.