

## KS2 Geography. Biomes.

### Rainforests and Deserts.

EVA: Get set for an exciting journey.

I am your guide, 'Earth's Virtual Assistant.' But you can call me E.V.A.

Your mission is to explore the world's biomes. Biomes are areas of the planet with similar climates, landscapes, animals and plants.

*[A MAP OF THE EARTH REVEALS SIX BIOMES]*

There are six major biomes found on Earth. Rainforests. Deserts. Savannahs. Tundras. Woodlands. And Grasslands.

Let's investigate...the *rainforest* biome!

*[A GLOBE SHOWS THE POSITION OF THE EQUATOR]*

A biome's climate is mainly controlled by its *latitude* on Earth - how far north or south it is. A rainforest is hot and wet all year round. This is because they are found close to the equator - an imaginary line that runs around the middle of the Earth, which receives more direct sunlight than other places.

*[THE GLOBE ZOOMS IN TO SOUTH EAST ASIA]*

It's time to start this mission so let's journey to Southeast Asia.

*[IMAGES OF RAINFORESTS]*

Each biome has special features. The hot and wet climate found in the rainforest biome provides the perfect conditions for a wide variety of animals and plants to thrive. This is why rainforests are rich in biodiversity.

*[ON-SCREEN GRAPHICS - BIODIVERSITY]*

*Biodiversity is the variety of plant and animal life in a place.*

The *forest floor* is dark, as the trees above block out most of the sunlight.

The *under canopy* is the layer above the forest floor. This area is shady and cooler. These leaves with pointy tips are known as drip tips. This allows water to run off the leaves quickly without damaging them.

The *canopy* is the continuous layer of tree tops that is more sheltered. These spider monkeys have long, strong limbs and tails to help them climb through this layer of the rainforest.

The *emergent layer* consists of the tallest trees in the rainforest and they can grow up to 60 metres.

Protecting rainforests is important because they produce oxygen, and they also trap large amounts of carbon too, which helps to limit the rise of global temperatures.

Rainforests are threatened by humans cutting down large areas of trees, to use the wood or make space for activities like farming or mining.

[DEBRIEF - RAINFORESTS]

1: The rainforest biome has a hot and wet climate. 2: It has a huge variety of plants and animals. 3: This biome plays an essential part in maintaining world biodiversity and climate.

[MAP OF THE EARTH REVEALS THE NEXT BIOME]

Our mission continues now and it's time to explore another biome. The next biome is *desert*.

[A GLOBE SHOWS THE LOCATION OF THE EQUATOR AND TROPICS]

Most desert biomes are found near two imaginary lines either side of the equator called the Tropic of Cancer to the north, and the Tropic of Capricorn to the south.

But not all deserts are hot, dry and sandy. Some of the world's largest deserts are cold deserts located near one of the Earth's poles, or at high altitude.

The thing that characterises all deserts - whether hot or cold - is a lack of rainfall.

[THE GLOBE ZOOMS IN TO AFRICA]

Let's take a closer look at a hot desert biome.

Deserts cover approximately 33% of the Earth's land area. Some may go years without a single drop of rain. A desert climate can see temperatures hit as high as 50 degrees Celsius during the day. Then drop rapidly at night. Sometimes to below freezing.

Only specially adapted plants and animals can survive here. These cacti store water in their stems so they can survive for a long time without rain.

*[ON-SCREEN GRAPHICS - NOCTURNAL]*

Some animals have adapted to avoid the heat of the day and are nocturnal, meaning they are active in the cooler nights.

This animal - found in north African deserts - is the fennec fox, which has adapted to help it survive the extreme temperatures. Their large, bat-like ears release body heat and help keep them cool.

A big challenge for Earth is that more land is turning into desert. This is called *desertification*, and one of its main causes is climate change.

In most fertile areas alongside existing deserts conditions are not only getting warmer but drier too. The lack of rain and too much wind leaves soil exposed and its quality is reduced - turning it into desert.

*[DEBRIEF - DESERTS]*

1: Desert biome climates are extremely dry, with little rainfall due to their latitudes on earth. 2: They can be extremely hot and very cold. 3: Many plants and animals have special adaptations to survive.

Congratulations! We've come to the end of our fabulous journey exploring two of the world's major biomes. Mission complete!