



Biomes Explained: Deserts and Rainforests Compared

KS3

KS4 GEOGRAPHY

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What is a Biome?

A **biome** is a huge area of the planet that has its own special climate, weather patterns, and types of plants and animals that live there. Think of Earth like a giant puzzle where each piece represents a different biome. Scientists have identified around **5 to 8 major biomes**, including rainforests, deserts, grasslands, forests, tundra, and oceans.

The climate of a biome—how hot or cold it gets, and how much rain falls—shapes everything that lives there. Plants and animals have adapted over millions of years to survive in their particular biome.

Think of it like different rooms in your house—your bedroom, kitchen, and bathroom are all designed differently because they serve different purposes. In the same way, each biome is designed by nature to support certain types of life.

The Desert Biome

Deserts are the driest biomes on Earth. They receive very little rainfall—often less than **10 inches (25 centimetres) per year**. This makes life extremely challenging. Temperatures can swing wildly: scorching hot during the day (sometimes over **50°C**) and freezing cold at night.

Animals in deserts have special adaptations to conserve water. Camels store fat in their humps for energy when food is scarce. Desert plants like cacti have thick, waxy skins to reduce water loss. Many desert animals are nocturnal, meaning they hunt and feed at night when it's cooler.

The Rainforest Biome

Rainforests are the complete opposite of deserts. They are warm, wet, and bursting with life. Rainforests receive enormous amounts of rain—between **80 to 400 inches**

(2,000 to 10,000 centimetres) every year. The temperature stays warm and humid year-round, typically between **20°C and 25°C**.

Rainforests contain roughly **50% of all animal species on Earth**, even though they cover only about **6% of the planet's surface**. Trees grow incredibly tall and dense, creating different layers: the canopy at the top blocks out much light, while the forest floor stays damp and dark. Animals in rainforests are incredibly diverse—jaguars, poison dart frogs, sloths, and millions of insects thrive here.

Think of it like comparing a sparse library with a few tall shelves to a massive library packed on every wall—one feels empty while the other feels crowded with life.

Key Differences Summary

The main differences between deserts and rainforests come down to **rainfall and temperature stability**. Deserts are dry and extreme; rainforests are wet and consistent. These differences mean that the plants, animals, and entire ecosystems are completely different. Understanding biomes helps us protect these unique environments and the incredible variety of life they support.