How do deserts form?

KS2 KS3 Ages 7-14 ⏰ 2 min read

Picture the Earth as a giant machine with invisible conveyor belts of air constantly moving around it. These **1** carry moisture from the oceans, but sometimes they get stuck, dried out, or blocked — and that's when deserts are born.

The Great Air Squeeze

The most common way deserts form happens around 30 degrees north and south of the equator — roughly where you'd find the Sahara or the Australian Outback. Here's what happens: hot air rises at the equator, carrying loads of water vapour. As this air travels towards the poles, it cools down and dumps most of its moisture as rain in tropical regions. By the time it reaches these 30-degree zones, the air is bone dry and sinks back down to Earth, creating what scientists call **1**.

Think of it like wringing out a wet towel. The equator squeezes all the moisture out of the air, and by the time that air reaches desert regions, it's as dry as a wrung-out cloth with nothing left to give.

When Mountains Play Defence

Mountains create deserts too, acting like enormous walls that block moisture-carrying clouds. When air hits a mountain range, it's forced upward where it cools and drops its rain on the mountain's windward side. The air that makes it over the top is completely dried out, creating what's called a **1** on the other side. The Atacama Desert in Chile formed this way, sitting in the shadow of the Andes Mountains.

Distance Makes the Heart Grow Drier

Some deserts exist simply because they're too far from any ocean. The Gobi Desert in Asia formed partly because it sits smack in the middle of a massive continent, thousands of kilometres from moisture sources. By the time any ocean air reaches there, it's lost most of its water along the way.

Cold ocean currents can also steal moisture from coastal areas. When warm air passes over these chilly waters, it cools quickly and can't hold much moisture,

creating **1** like parts of the Namib Desert in Africa.

Deserts aren't permanent fixtures though. Over millions of years, as continents drift and climates shift, today's deserts might become forests, and today's rainforests might become tomorrow's sandy wastelands. The Earth's desert-making machine never stops running.