



Climate Change and What Causes It

KS2 GEOGRAPHY

KS3 SCIENCE

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What Is Climate Change?

Climate change means Earth is getting warmer, and our weather patterns are changing. Unlike regular weather (which changes day to day), climate is about patterns over many years. Right now, Earth is warming faster than it has in thousands of years, causing **glaciers** to melt, sea levels to rise, and extreme weather like stronger hurricanes and longer droughts.

The Greenhouse Effect

To understand what causes climate change, we need to know about the **greenhouse effect**. Earth's atmosphere (the air around our planet) contains gases that trap heat from the Sun, like a blanket. This is actually natural and keeps us warm enough to live. But humans are adding extra gases to this blanket, making it thicker.

Think of it like: A greenhouse is a glass building that traps heat to keep plants warm. Earth's atmosphere works the same way—gases act like glass, letting sunlight in but keeping heat from escaping back to space.

What Causes Climate Change?

The main cause is **greenhouse gases**, especially **carbon dioxide (CO₂)**. We release these gases by burning **fossil fuels** like coal, oil, and gas for electricity, cars, and factories. We also release methane from farms and waste, and other gases from industry.

When we cut down **forests**, we lose trees that absorb CO₂. When we manufacture things, fly planes, or drive cars, we release more CO₂. Since the **Industrial Revolution** (around **1760**), humans have released enormous amounts of these gases, making the atmosphere much thicker.

What Happens as a Result?

Warming temperatures affect everything: animals lose habitats as ice melts, crops fail in droughts, and extreme weather destroys homes. **Coral bleaching** happens when

oceans get too warm. **Permafrost** (frozen ground in Arctic regions) melts, releasing even more methane. The changes happen faster than nature can adapt.

What Can We Do?

We can reduce fossil fuel use by switching to renewable energy like solar and wind power. Planting trees helps absorb CO₂. Governments, businesses, and families all need to make changes together to slow climate change and protect our planet.