

Rainforest Explorers: Geography Masterclass

Learning objective: To understand the structure, climate, and importance of tropical rainforests, and the impact of human activity on these ecosystems.

Read the front of each card to test your knowledge of rainforest geography. Flip to reveal the answer. Use these to revise for our upcoming class discussion with Finn the Dolphin.

Where are most tropical rainforests located on Earth?

Most tropical rainforests are situated near the Equator, in the region known as the tropics, where the climate remains warm and wet all year round.

What is the 'Canopy' layer in a rainforest?

The canopy is the thick layer of foliage formed by the upper branches of mature trees, which acts like a roof over the rainforest floor and houses the majority of its wildlife.

Explain the term 'Biodiversity'.

Biodiversity refers to the immense variety of plant and animal life within a particular habitat or ecosystem.

What are the four distinct layers of a rainforest?

The emergent layer, the canopy, the understorey, and the forest floor.

Define 'Deforestation' and explain why it is a global concern.

Deforestation is the purposeful clearing of forested land. It is a concern because it destroys habitats, reduces biodiversity, and contributes to climate change by releasing stored carbon dioxide.

What is 'Transpiration' and why is it important in the rainforest?

Transpiration is the process where plants release water vapour into the atmosphere through their leaves. This helps maintain the high humidity and rainfall levels characteristic of rainforest climates.

Compare the 'Understorey' to the 'Emergent' layer.

The emergent layer consists of the tallest trees that poke above the canopy to reach direct sunlight, whereas the understorey is a dark, shaded layer beneath the canopy with very little sunlight.

Why is the rainforest often described as the 'lungs of the Earth'?

Because rainforest plants absorb carbon dioxide and release oxygen through photosynthesis, which helps to regulate the global atmosphere.

Justify why many indigenous communities rely on the preservation of rainforests.

Indigenous communities rely on the rainforest for food, medicine, building materials, and their cultural heritage; its destruction directly threatens their way of life.

What might happen if the rainforest canopy were completely removed?

The soil would be exposed to direct sunlight and heavy rain, leading to rapid erosion and nutrient loss, while the unique species adapted to the canopy would lose their habitat and face extinction.

If a hectare of rainforest is cleared to create cattle pasture, how does this affect the local water cycle?

Without the trees to release moisture through transpiration and intercept rainfall, the local area would likely become significantly drier and suffer from increased soil degradation.

Propose one way humans can promote sustainability in rainforest regions.

Possible answers include supporting fair-trade products, reducing the demand for unsustainable timber, or protecting land for conservation rather than industrial agriculture.