Teacher Background: From Teacher Vision

Structurally complex and ages old, rain forests cover only about six percent of Earth's surface, yet they are extremely diverse, containing over half of all known animal and plant species. Most people associate rain forests with tropical areas but they are also found in temperate coastal regions that have suitable climates. Tropical rain forests are typically found in the lowland areas of river basins, such as the Amazon and Congo. The equatorial climate is ideal for plant growth because it is consistently hot, wet, and humid. Also, because tropical rain forests lie between the Tropics of Cancer and Capricorn they experience about 12 hours of sunlight every day all year round, which means there are no limitations on the growing season. Tropical rain forest is frequently described as being luxuriant and spectacular, but, sadly, today the most apt term to use is "disappearing."

The largest tropical rainforest covers the Amazon basin area which covers nearly 2.5 million sq miles (6 million sq km) and is covered by the world's largest expanse of tropical rain forest. This jungle supports more species of plants and animals than anywhere else—about one-fifth of the world's bird and flowering plant species, and about one-tenth of all mammal species. No definite figure can be put on the number of different insects, because many have yet to be identified—or even discovered—by scientists. Indigenous people have lived in these forests for about 12,000 years, during which time they have built up a detailed and valuable knowledge of the rain forest plants, many of which are used to make medicine.

Tropical rain forests have different layers. The tallest trees are in the emergent layer. But the most organisms reside in the canopy layer. Less sunlight penetrates to the understory and shrub layer and the rain forest floor is actually quite dark with a high rate of decomposition.

Every single second an area of rain forest the size of a football field disappears—this rate of loss is unsustainable and if it continues, by 2060 there will be none left. Conserving rain forests is one of the biggest challenges we face today, but demand for farmland, efficient communication networks, and mining licenses, in addition to illegal logging and the bushmeat trade are all taking their toll. More recently, the demand for biofuels (fuel made from crops) has led to massive deforestation, particularly in Indonesia, to make way for palm oil plantations.