AMAZON PLANTS

Introduction to Amazon plants

• 90% of photosynthesis takes place in the **canopy**
(the top layer of leaves that is found high above the forest floor, ap. 100 feet)
• Most of the sunlight is absorbed by the canopy leaves, the forest floor is dark under the cover of the canopy
• Rain and wind cause high branches to break and leaves to fall to the forest floor, where they are QUICKLY broken down, nutrients are returned to the soil, and allow trees and other plants to grow
• Decomposition occurs rapidly in the tropics because of the warm, moist conditions, which allows decomposers (bacteria, fungi, insects) to thrive

Philodendron (ap. 3 feet or 0.914 meters wide)

• Popular houseplant, easy to grow
• One of the most effective houseplants for removing pollutants from the air. It filters formaldehyde in the home (e.g. carpets, particle boards, and silk flowers).
• Philodendrons produce aerial roots that grow from the limbs and trunk to the ground, providing additional support in the shallow soils of the rainforest, as well as drawing water and nutrients
• The name derives from the Greek: philo=love and dendron=tree (because they often use other trees for support to grow towards the light)
• Over 500 different species
• Should not be eaten! It's toxic.

Banana (ap. 6 feet or 1.828 meters long)

• Bananas are the most popular fruit in the world
• Comes from the Arabic word for finger (because of the shape of the fruit)
• According to the MABB, there are 35 species of bananas and 1000 cultivars, sub-divided into 50 groups (International network for the improvement of banana and plantain). The ones we eat are usually the sweet Cavendish bananas (some types of bananas must be cooked to be edible)
• Fibers from the plant are strong—used in tea bags, paper money
• Leaves can be used for roofing, umbrellas, cooking, and to make mats
• Nutritious- lots of potassium, needed for brain functioning

Giant Waterlily (ap. 5 feet or 1.524 meters wide)

• Two species *Victoria amazonica* and *Victoria cruziana* are known
• It has 12" flowers (the size of a football) that open at night and are pure white, a chemical reaction heats flowers to as much as 20°F above outside temperature and releases a sweet pineapple smell to attract scarab beetles covered in pollen from other flowers. The bloom closes and traps the beetle inside who pollinate this flower, collect more pollen, and then are released at dusk the next day. Once pollinated, the petals change from white to purple, no longer attracting other scarab beetles. The seed takes a year to sprout after pollination.
• The bottom of the waterlily is covered in 1 inch spikes to protect it from herbivorous fish
• The ribs on the bottom of the leaf are filled with air that keeps the lilypad afloat

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Breadfruit, *Artocarpus altilis* (ap. 3 feet or 0.914 meters long)

- Native to South East Asia, brought to the Amazon by Europeans
- Pollinated by Old World fruit bats
- Grapefruit-sized, edible fruit, related to figs
- Flesh, when roasted said to taste like fresh baked bread
- The trees provide construction materials, medicine, fabric, glue, mosquito repellent, animal feed, and more
- Provide shelter and food for Amazon animals
- Can produce 800+ fruits a season, although this is variable and dependant on the location, species, etc.

Why are these leaves so big?

1. To catch sunlight beneath the canopy - much of the forest floor is shadowed by the taller forest canopy, many plants have large leaves to create more surface area for light absorption.
2. Because the growing season is YEAR ROUND (rainforest are near the equator so there is ample sunlight and warmth all the time, plants never have to deal with winter)
3. There's constant 12 hours night/day
4. There's plenty of rainfall, so water is not a limiting resource