Private Lives of Plants: Putting Down Roots

When most shoots sense light, they grow toward it. The shoot of the cheese plant (*Monstera*) grows toward shade. Why?

As the cheese plant grows up a support, the leaves produced once the vine is above a certain height are a different shape than those at a lower height. Describe the differences in leaf shape. How is this a successful adaptation for the cheese plant?

Shade plants like *Begonia* have red undersides. How is this adaptation advantageous to these plants?

What are root hairs and what is their function?

Why is it bad for water to accumulate on leaf surfaces? What adaptations do leaves of rainforest plants have that enhance water drainage from leaf surfaces?

Why are large herbivores rare? What group of animals is the #1 attacker of plants?

The video shows several examples of plants which defend themselves from herbivory. Be able the describe the mechanisms used by:
Acacia
nettle
dead nettle
pebble plant (living stones)
passion flower
bracken
sensitive *Mimosa*
Note: many of these plants use mimicry in their defense mechanism

We will cover carnivorous plants with mineral nutrition. For now, make a note of at least two carnivorous plants presented in this video. How do they trap insects? Are these active or passive traps? Why did the carnivorous habit evolve?

What causes the formation and appearance of an annual ring?

Compare the leaves (needles) of pines to the leaves of oak and maple.

What are the oldest and largest single organisms on earth? What distinguishes their growth from shorter-lived and smaller plants?