



Science Virtual Learning

LEP Science

Plant Structure and Evolution

May 19, 2020



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Lesson: May 19, 2020

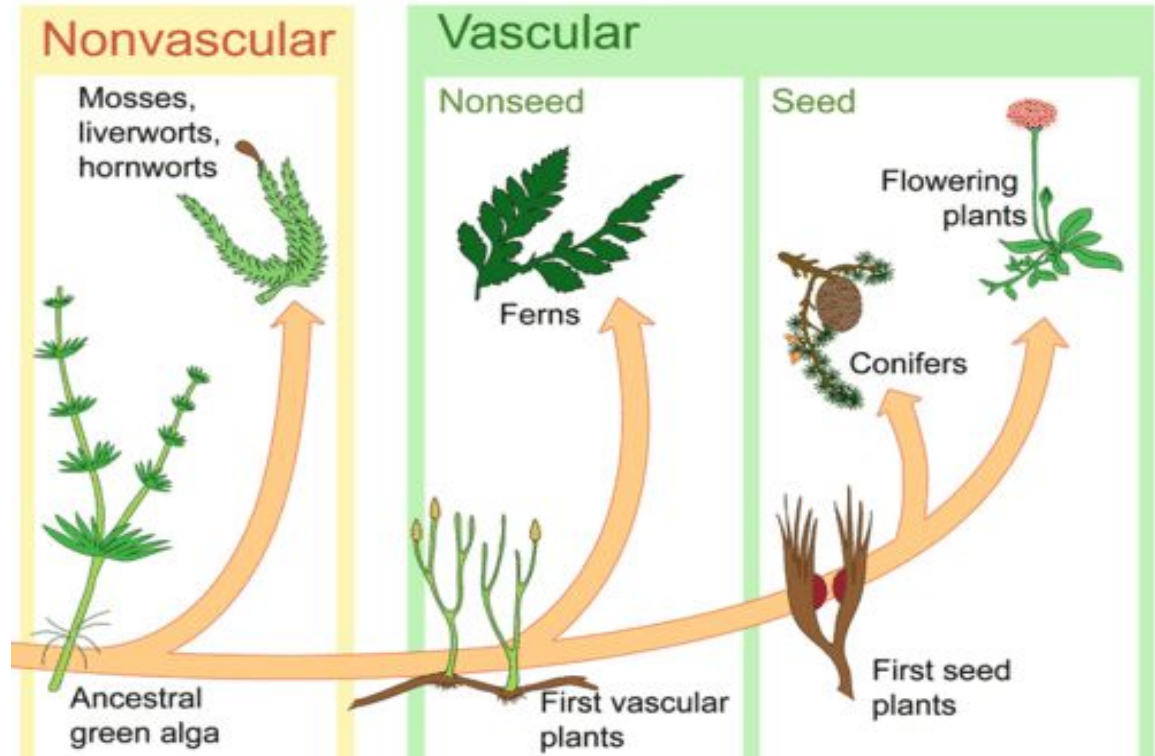
Objective/Learning Target: I can explain the basic structure of a plant and how they have evolved over time.



Let's begin by looking at the history of plants and how they have evolved over time.

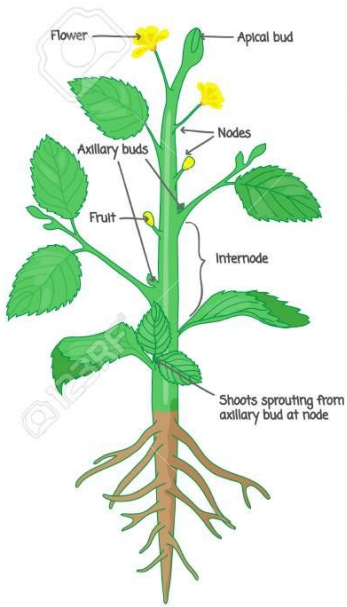
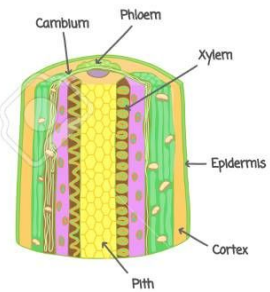
Watch this [Plant evolution](#) video. As you watch, fill in this [Notes page](#) (you will need to “make a copy” of the page in order to edit it).

Now that you know a little about plant evolution. Why do you think plants evolved they way they did? (answer on a sheet of paper and we will discuss at the end of the lesson).



PLANT
 STRUCTURE

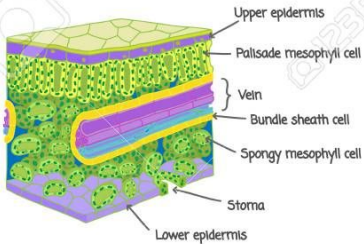
STEM
 CROSS SECTION



LEAF STRUCTURE



LEAF
 CROSS SECTION



Now, let's look at the structure of the more advanced vascular plants.

Watch this [Bozeman Science Video](#) and take notes as you go. The video will pause with directions and questions.



Let's practice what we have learned so far.

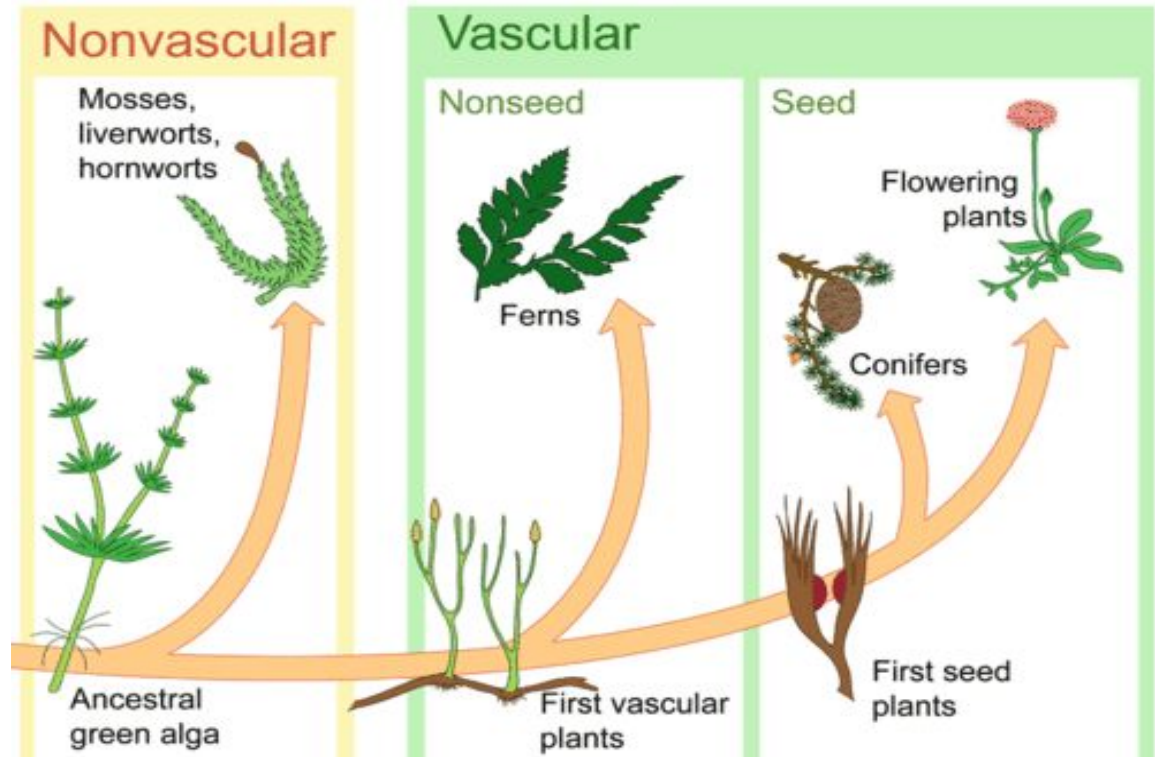
Take this [quizizz](#) quiz on plant structure and function.

When you are done, try your hand at this [quiz](#) over plant evolution.

***All answers are given in the quiz**

So, back to our earlier question.

Now that you know a little about plant evolution. Why do you think plants evolved they way they did? (answer on a sheet of paper and we will discuss at the end of the lesson).





Look at your answer. After going through the lesson, do you need to change your answer?

There is a lot of literature on the web that discusses HOW plants evolved, but very little that discusses WHY. Knowing that plants started in water as algae and moved on to land is a key point in understanding the why. As the oceans were drying up, plants needed to move on to land in order to survive. The first land plants (Bryophytes) still needed to stay close to water so they could reproduce. Now, as you can imagine, things got a little crowded along the waterfront, thus the reason vascular tissue became important. Plants could now live further inland and not depend so much on water.



The first vascular plants (Ferns) still needed to stay relatively close so they could reproduce. See, they didn't drop seeds, but instead had spores. These spores still needed water in order to grow and develop. These vascular plants were also able to grow taller and take more advantage of the sun's energy during photosynthesis. Gymnosperms solved the problem of needing water for reproduction by developing seeds. This allowed for even more movement away from the waterfront. The problem with gymnosperms seeds is that they do not have a protective coat around them, so they can be easily destroyed by the elements of nature. Angiosperms developed the coat around the seed to protect it and thus allowed for even greater dispersal of their seed, allowing for still more movement inland and away from water.

I hope this explanation makes sense to you.



Additional Resources for learning

[Notes from Gainesville ISD](#)

[Flashcards for terminology practice](#)

[More on plant structure](#)

[Article over plant evolution](#)