

Adaptations Treasure Hunt

Each student or group of students should find three examples of plant adaptations in their schoolyard or in a park on a fieldtrip. To do this, find any plant – it can be a tree, some grass, a weed – anything. Then look for something in the leaves, roots, stems, flowers, fruits or other plant parts that appears to be an adaptation to the plant's environment. Figure out into which of the following three categories this adaptation fits. Write a short description of the plant and describe its adaptation under the appropriate category. Try to find one example in each of the three categories:

NOTE: LEAVES OF THREE- LET IT BE. POISON IVY HAS THREE LEAFLETS!

Functional adaptations

Any adaptation that helps the plant to survive and perform its major survival functions – i.e. staying rooted, transpiring water, photosynthesizing and transporting nutrients is a functional adaptation. Functional adaptations include anything that seems to help the plant stay upright, climb (as in vines), transport nutrients, capture water, store water, drain water from its leaves or anchor itself.

If your plant has a functional adaptation, describe it:

Now draw a picture of the adaptation below:

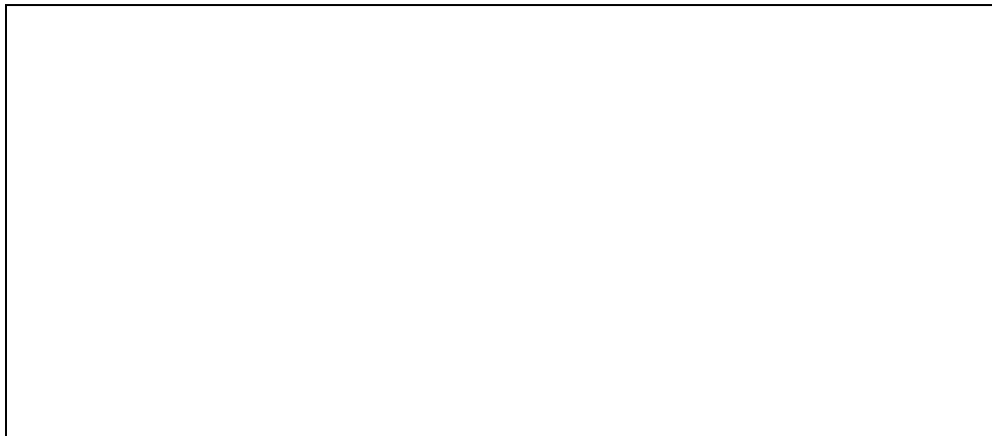


Defensive adaptations (this can be considered a sub-category of functional adaptation)

Any adaptation that helps a plant to defend itself from predation is a defensive adaptation. This includes physical defenses, chemical defenses, mechanical defenses (leaves that fold up when you touch them for example) or defenses that make leaves hard to digest. Any kind of thorns, spines or sharp hairs fall in this category. Chemical defenses can sometimes be seen (white latex), and can sometimes be smelled. Any sort of strong smell, even if it is a nice smell, is likely a chemical defense. Be sure to smell the plants you look at- but be careful! If you are not sure if a plant is harmful, don't touch it! If a leaf is very thick, it probably has lots of cellulose and is hard to chew or digest. This is also a defense.

If your plant has a defensive adaptation, describe it:

Now draw a picture of the adaptation below:



Reproductive adaptations

Any adaptation that helps the reproductive process in a plant is a reproductive adaptation. Look at a plant that has flowers, fruits or seeds. Plants have two main reproductive strategies:

1. Some plants grow quickly, produce lots and lots of seeds all at once and then die within the course of a year. We call these annual plants.
2. Other plants grow slowly, take time to mature and then make a few seeds each season over their lifetimes. We call these perennials. This includes all trees and shrubs.

What strategy do you think your plant uses? If it has a flower, think about why the flower looks that way. What kind of pollinator is it trying to attract, if any? Don't forget to smell it. The smell can help you determine what kind of animal it is trying to attract for pollination. Look at the reproductive parts of the flower (stamen and carpel). Many flowers have ways to prevent self-fertilization by trying to keep their male and female parts separate – for example the female part may be long and the male parts short, to keep distance between the male and female parts. If you find fruits, try and think about how they are dispersed or what kind of animal may help disperse the seeds.

If your plant has a reproductive adaptation, describe it:

Now draw a picture of the adaptation below:

