

FLORIDA 4-H FOREST ECOLOGY CONTEST
FOREST HEALTH
INTERMEDIATE

- 1a Tree damage is caused by an insect.....go to 2
- 1b Tree damage is not caused by an insectgo to 12

- 2a Damage is caused by a larvae or caterpillar.....go to 3
- 2b Damage is not caused by a larvae or caterpillargo to 7

- 3a The caterpillar or larvae make webs to live ingo to 4
- 3b The caterpillar or larvae do no make webs to live ingo to 6

- 4a The caterpillar or larvae make their webs in the tips of pine tree and the webs are often brown because of the frassPine webworm
- 4b Not as described above.....go to 5

- 5a The caterpillar or larvae feed in group on pine trees and move together to mimic a larger animal as a defense mechanism.....Pine sawflies
- 5b Not as described above.....go to 6

- 6a The insects live in a web that is no bigger than a basketball, is found in the branch unions of fruit trees (apple, cherry, plum) and the insects leave their webs to feedEastern tent caterpillar
- 6b The insects live in and feed inside of their web, the web can cover large parts of hardwood tree canopiesFall webworm

- 7a The tree damage is caused by an adult insect laying its eggsgo to 8
- The insects are not as described above and are beetlesgo to 9

- 8a large insect depositing its eggs in 1/4-1/2" diameter branches using an ovipositor, adult insect is 2" long.....Cicada
- 8b Adult insect is a moth and it deposits her eggs in the tips of newly growing pine branchesPine tip moth

- 9a The beetle is the largest bark beetle in the southeastern United States, its damage is seen in the lower 10 ft of the tree stem, as is associated with large globs of resinBlack turpentine beetle
- 9b The beetle is not as described above.....go to 6a

- 10a The beetle gallery is just under the surface of the barkgo to 11

- 10b The beetle makes “noodles” of wood tissue that it pushes out of the tree as it bores into the wood, it has a symbiotic relationship with a fungus that it eatsAmbrosia beetle
- 11a The beetle has 1/8” exit holes, its galleries are made up of individual chambers for their grubs to mature in and feed on the inner bark of the pine tree.....Southern pine beetle
- 11b The beetle makes X-shaped galleries under the bark of pine treesIps beetle
- 12a The damage is caused by a fungus or bacteriumgo to 13
- 12b The damage is caused by environmental occurrences, are human-made, or parasitic plant.....go to 21
- 13a The damage to the tree is best described as a cankergo to 14
- 13b Not as described above.....got to 16
- 14a The canker is caused by a bacterium that makes the dead branches appear blackened and have a shepherd’s hook appearanceFireblight
- 14b Not as described above.....go to 15
- 15a The canker is often found on oak trees and other hardwoods, it can appear smooth black or grey.....Hypoxylon canker
- 15b The canker is found on pine and is associated with a lot of resin or pitch production by the tree.....Pitch canker
- 16a The disease has two different host plants from two different tree speciesgo to 17
- 16b Not as described above.....go to 18
- 17a The two hosts are red cedar (*Juniperus virginiana*) and apples or crabapple (*Malus species*), on the cedar it produces large round galls and on the apple causes orange leaf spots.....Cedar apple rust
- 17b The two hosts are pine (loblolly and slash, especially) and oak (water, willow, and laurel), the fungus causes galls to form on branches of the pine and leaf spots on the oakFusiform rust
- 18a The fungus grows at the base of treesgo to 19
- 18b The disease is found on the leaves or needles of the host plantgo to 20

- 19a The fungus grows at the base of a conifers, it grows as a
 conk or shelf-fungus, is brown with a white edge (margin).....Annosus root rot
- 19b The fungus grows as clusters of mushrooms at the base of
 trees like a little “army”, it can also grow rhizomorphs that
 look like black-brown shoestrings.....Armillaria root rot
- 20a The fungus infects leaves of oak trees causing raised bumps
 on the leaves that appear a lighter shade of greenOak leaf blister
- 20b The fungus infects the needles of pine trees and causes
 them to turn red-brown and be prematurely dropped from
 the treeNeedlecast
- 13a The damage are V-shaped grooves cut into the bark of trees,
 it was caused by humans during the collection of pine resin
 from trees to make turpentine, is sometimes associated with
 metal attached to the tree.....Catface
- 13b Not as described above.....go to 14
- 14a The damage appears as an overgrowth of tissue that can be
 round, oval, or elongated, they can appear on branches,
 stems, or leaves, and can be cause by insects, diseases, or
 abiotic factorsGalls
- 14b Not as described above.....go to 15
- 15a Damage looks like vertical slashes in the tree’s bark and is
 caused by giant sparks of electricityLightning
- 15b The damage looks like a green plant growing on the
 branches of its host tree, it does not lose its leaves in the
 winter, is a higher parasitic plant.....Mistletoe