

NAME: \_\_\_\_\_

1. For tree species from **Day 1**, list the Genus and specific epithet of each described below (1 point if full name is correct, 6 points total) Spelling can be creative, but don't push it.

Question	Genus	specific epithet
A. This northeastern tree with peeling bronze-colored bark and doubly serrate leaves is a browse for deer and moose.		
B. This early-successional northwestern hardwood species is used for firewood and for smoking planks for salmon.		
C. It is illegal in Arizona to remove, harm, or alter this species, which can take 75 years to grow its first 'branch'.		
D. This opposite-leaved species from the northwest is used for syrup production and is the largest member of its genus.		
E. Also known as ginger pine, this gymnosperm from Oregon and California usually grows in mixed stands.		
F. This eastern angiosperm has smelly twigs, and was widely planted as an ornamental but then started breaking easily.		

2. For tree species from **Day 2**, list the Genus and specific epithet of each described below (1 point if full name is correct, 6 points total) Spelling can be creative, but don't push it.

Question	Genus	specific epithet
A. This tree from the fog belt of California can reach 2200 years old and 379.3 feet in height. And its bark is 1 ft thick.		
B. This medium-sized angiosperm from dry ridges in the Appalachians is named for its leaf, and is used for honey.		
C. This gymnosperm circles the boreal forest globally, and is used to flavor meats and gin. It actually gives gin its name.		
D. This eastern angiosperm was devastated by a fungal blight introduced in 1904. It once had high timber & wildlife value.		
E. This gymnosperm only remains in 55 groves in California. It is so large that a dance was held on the stump of one.		
F. This popular ornamental in the US South forms dense thickets near streams in the southern mountains.		

3. List the best online resource to use for each of the following. (6 pts)

- Identifying an unknown woody species you found on vacation in Vermont:
- Writing a technical report on the life history and biology of ponderosa pine:
- Determining how many North American species are in the genus *Ilex*:

\_\_\_\_\_ points

4. For tree species from **Day 3**, list the Genus and specific epithet of each described below (1 point if full name is correct, 6 points total) Spelling can be creative, but don't push it.

Question	Genus	specific epithet
A. This eastern angiosperm has deep lobes on its bristle-tipped leaves, with concentric rings on the tips of its fruit.		
B. This silver-budded Appalachian hardwood has heavier and stronger wood than yellow-poplar.		
C. This is the state tree of New Jersey, and is a valuable hardwood timber species in the eastern US.		
D. This Californian angiosperm can have a dbh of 13 feet and a wide-spreading crown. It has historical use in shipbuilding.		
E. This species has shaggy bark, pinnately compound alternate leaves, and large fruits for its genus.		
F. This fire-adapted western hardwood provides nesting habitat for Mexican spotted owls and has yellow fall foliage.		

5. For tree species from **Day 4**, list the Genus and specific epithet of each described below (1 point if full name is correct, 6 points total) Spelling can be creative, but don't push it.

Question	Genus	specific epithet
A. This deciduous gymnosperm native to the northwest is featured on Oregon's license plate, but only leaf-on.		
B. This gymnosperm is only native to the high peaks of the southern mountains, but has been reduced by an adelgid.		
C. This gymnosperm from the northwest has particularly valuable wood for its genus due to the high strength.		
D. This is the state tree of both Colorado and Utah, and is the most drought-tolerant of its genus due to waxy leaves.		
E. This gymnosperm takes its name from the obvious exserted bracts on its cones, but you won't find cones on the ground.		
F. This northeastern gymnosperm can be extirpated with severe fires, and is a popular Canadian Christmas tree.		

6. What type of fruit does each of these species have? (2 point each, 8 points total)

Honey locust:

Apple trees:

Crapemyrtle:

Persimmon:

7. For tree species from **Day 5**, list the Genus and specific epithet of each described below (1 point if full name is correct, 6 points total) Spelling can be creative, but don't push it.

Question	Genus	specific epithet
A. Don't cut down one of these to age it unless you are sure it is not the world's oldest living tree.		
B. This conifer from the Great Lakes region has short curving cones that only open due to fire.		
C. This widespread western gymnosperm has several subspecies. One by the coast has very poor stem form.		
D. This common boreal gymnosperm is found with various mosses, and has foul-smelling foliage sometimes.		
E. This high-elevation gymnosperm is threatened by climate change and diseases.		
F. This gymnosperm found in southeastern Alaska is the largest of its genus.		

8. For tree species from **Day 6**, list the Genus and specific epithet of each described below (1 point if full name is correct, 6 points total) Spelling can be creative, but don't push it.

Question	Genus	specific epithet
A. This primarily Mexican species resembles longleaf pine.		
B. This widely distributed western gymnosperm has a pleasant smell to the bark.		
C. This eastern gymnosperm can be found with post oak on dry ridge tops, and was historically used for turpentine.		
D. While this species has a very limited natural range in California, it is widely planted globally.		
E. This eastern gymnosperm has soft wood for its genus, so it is used for low quality furniture and timbersports.		
F. This Californian gymnosperm has enormous cones.		

9. Identify the following forms of variation or concepts related to variation. (5 pts)

- White oak leaves varying widely in their shape:
- The source of all variation that natural selection operates with:
- Phenotype = Genotype + Environment + G x E:
- You don't look exactly like your sibling:
- Ash leaves being simple in seedlings but compound in adult trees:

10. For tree species from **Day 7**, list the Genus and specific epithet of each described below (1 point if full name is correct, 6 points total) Spelling can be creative, but don't push it.

Question	Genus	specific epithet
A. This southern Californian species has no timber value and the largest cones of its genus.		
B. This large western species has decent timber and wildlife value, small cones, and individual white-striped needles.		
C. This species can grow in large, single-sex, clonal groves, making it the largest single organism on the planet.		
D. This is the most intensively managed gymnosperm in the Pacific Northwest.		
E. This species native to Texas has very attractive reddish bark.		
F. The deeply furrowed bark of this large southwestern angiosperm makes it easy to identify along streams.		

11. For tree species from **EUROPE or ASIA**, list the Genus and specific epithet of each described (1 point if full name is correct, 8 points total) Spelling can be creative, but don't push it.

Question	Genus	specific epithet
A. This gymnosperm with needles on raised woody pegs is an important timber species in Scandanavia.		
B. This monotypic gymnosperm is a broadleaf, deciduous tree.		
C. This species looks almost identical to its American counterpart but for the number of parallel veins on the leaf.		
D. This species is endangered in its Mediterranean habitat due to overharvesting to produce pipe from its lignotubers.		
E. This is now an ornamental in the US, and looks very similar to a native opposite species, other than its globose fruits.		
F. This species was brought into the US for production of timber by early settlers, and can be ID'd by orange bark.		
G. This species shades cellars used for aging beer in Germany.		
H. This was believed to be a valuable specialty wood, and was planted widely in the US South before it became invasive.		

12. For tree species from **the SOUTHERN HEMISPHERE**, list the Genus and specific epithet of each described (1 point if full name is correct, 9 points total) Spelling can be creative, but don't push it.

Question	Genus	specific epithet
A. This species can grow in extremely harsh environments in Chile, but was given its common name by the British.		
B. This is the first commercial source of vitamin C, and was named for the captain who found it as a cure for scurvy.		
C. This red-fruited angiosperm is an extremely aggressive invasive exotic in south Florida.		
D. The uncanny symmetry of the crown of this south Pacific island tree makes it easy to identify from great distances.		
E. This is one of the world's most widely distributed hardwood plantation species, but originates in southeastern Australia.		
F. This is the world's tallest angiosperm.		
G. The cottony fibers in the seed pods of this species were used for a variety of purposes by indigenous South Americans.		
H. The light but strong wood of this species makes it ideal for various crafts.		
I. This species lent its name to the largest country on its continent.		

13. Draw and label a twig with a leaf growing from it. (1 point each correctly labeled feature, 16 points total)

14. Create an ***indented dichotomous*** key based upon LEAF morphology for the following species.  
(11 points total)

white oak      southern red oak      Florida maple      green ash      shagbark hickory