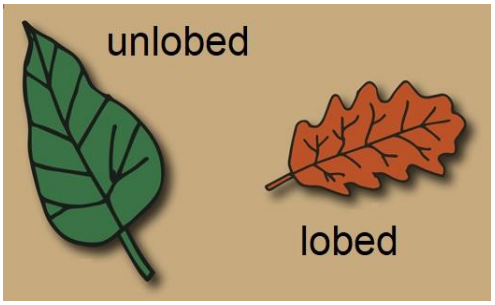
Forest Tree ID: Dichotomous Key

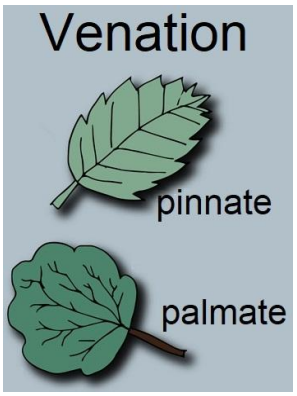


#1 Does it have broad leaves or needle-like leaves?

- ☐ Broad leaves …… Jump to #2
- ☐ Needles…….. Jump to #3

#2 Are the leaves lobed or unlobed?

- ☐ Has lobes …… Jump to #4
- ☐ No lobes …….. Jump to #5



#3 Are the needles in a bunch, or arranged along the twig?

- ☐ In a bunch (called a 'fascicle') …… Jump to #6
- ☐ Arranged along the twig ……..... Eastern Hemlock (*Tsuga canadensis*)

#4 Is the arrangement of veins pinnate or palmate?

- ☐ Pinnate …….. Jump to #7
- ☐ Palmate ……. Sugar Maple (Acer Saccharum)

#5 Are the edges of the leaf (the 'margins') singly serrated or doubly serrated?

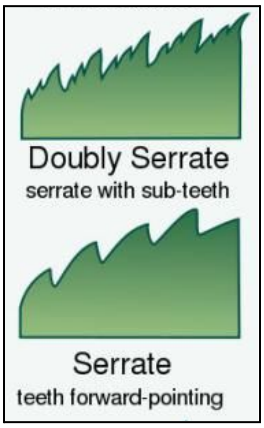
- ☐ Singly serrate (with smooth bark) ……..…. American Beech (*Fagus Grandifolia*)
- ☐ Doubly serrate (& bark has visible lenticels)…….. Black birch (*Betula lenta*)

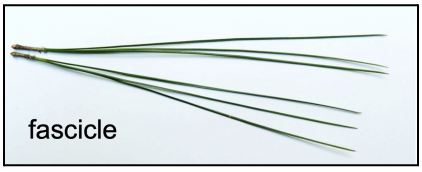
#6 How many needles per fascicle on the twig?

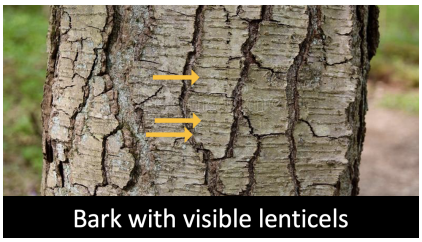
- ☐ 5 needles (bark-furrowed, blocky; cones-elongate) ... Eastern white pine (*Pinus strobus*)
- ☐ 3 needles (bark-brown plates; cones-round, prickly) ... Pitch pine (*Pinus rigida*)

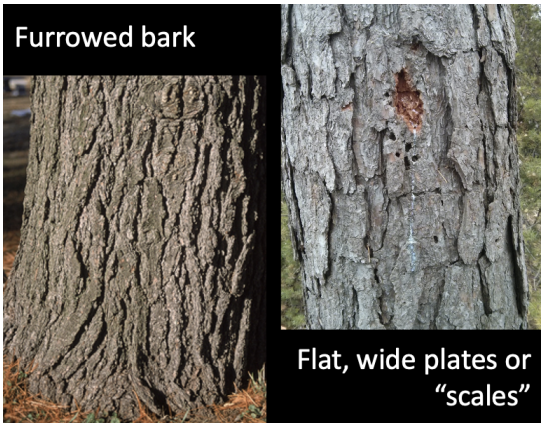
#7 Tips of the leaf lobes are pointed or rounded?

- ☐ Leaf lobes have pointed tips …… Northern red oak (Quercus rubra)
- ☐ Leaf lobes have rounded tips …….. White oak (Quercus alba)









Forest Tree ID

Name: _____

On our walk through the Fenton tract (a part of the UConn Forest surrounding the Fenton River), you will identify a few trees commonly found in forests in this region. At each flagged tree, work through the dichotomous key - a tool used to identify organisms based on a series of choices between two alternative characteristics. Then, record the Tree ID in the table and take your best guess at filling in the blanks to complete the Tree Fun Facts.

Flag #	Tree ID	Tree Fun Facts!
1		If you chew the twigs of this tree you can taste _____, an essential oil once widely harvested for its antibacterial, antifungal, antiviral, insecticidal, and antioxidant properties.
2		Very old stands of this tree once covered New England and the huge, straight trunks were reserved by the King of England for _____ for the royal navy.
3		The _____ stay on this tree over the winter, and when they fall they are eaten by blue jays, wild turkeys, squirrels, small rodents, whitetail deer, raccoons and black bears.
4		This tree makes great lumber. Wood is strong, and rot resistant; often made into _____ used to age wine and whiskey.
5		This tree grows in acidic, sandy, low-nutrient soils where other trees can't survive. The Iroquois people were known to use its _____ to treat cuts, burns, boils, and rheumatism.
6		This tree shares its name with a poisonous weed, but parts of it can actually make a delicious tea. It's only dangerous to competing trees which it discourages by throwing a lot of _____.
7		The sap of this tree is harvested in the spring and boiled down to make delicious _____. It's hard, dense wood is used to make bowling alley floors!
8		This tree can live for 300-400 years. unlike other hardwoods, this species retains its smooth shape _____ throughout its life.

Forest Tree ID KEY

Name: _____

On our walk through the Fenton tract (a part of the UConn Forest surrounding the Fenton River), you will identify a few trees commonly found in forests in this region. At each flagged tree, work through the dichotomous key - a tool used to identify organisms based on a series of choices between two alternative characteristics. Then, record the Tree ID in the table and take your best guess at filling in the blanks to complete the Tree Fun Facts.

Flag #	Tree ID	Tree Fun Facts!
1	Black birch	If you chew the twigs of this tree you can taste the __wintergreen oil___ an essential oil once widely harvested for its antibacterial, antifungal, antiviral, insecticidal, and antioxidant properties.
2	White pine	Very old stands of this tree once covered New England and the huge, straight trunks were reserved by the King of England for __Masts of ships__ for the royal navy.
3	Red oak	The __acorns__ stay on this tree over the winter, and when they fall they are eaten by blue jays, wild turkeys, squirrels, small rodents, whitetail deer, raccoons and black bears.
4	White oak	This tree makes great lumber. The wood is light-colored, strong, and rot resistant; often made into __barrells____ used to age wine and whiskey.
5	Pitch pine	This tree grows in acidic, sandy, low-nutrient soils where other trees can't survive. The Iroquois people were known to use its __Sticky sap/pitch__ to treat cuts, burns, boils, and rheumatism.
6	hemlock	This tree shares its name with a poisonous weed, but parts of it can actually make a delicious tea. It's only dangerous to competing trees which it discourages by throwing a lot of __shade___.
7	Sugar maple	The sap of this tree is harvested in the spring and boiled down to make delicious __maple syrup___. It's hard, dense wood is used to make bowling alley floors!
8	American Beech	This tree can live for 300-400 years. unlike other hardwoods, this species retains its smooth ___bark_____ throughout its life.

The plan:

Start down green trail. First right onto mtn bike track. First left down the hill.
See the ski poles. ID a black birch (aka sweet birch. Aka *Betula lenta*)

- This is a pioneer species, one of the first to grow back when we let forest come back here. Needs full sun. Won't live super long.

See a wetland at the hill bottom. Left at fork with orange.
Left at fork with blue - ID a dominant eastern white pine here (*Pinus strobus*)

- Also a pioneer species, colonizing old fields and ski hills, but they live for hundreds of years and grow fast, achieving this height and staying dominant over incoming tree species.

On the blue trail, head off trail to the right, towards the wet meadow. ID a white oak (Quercus alba) and a red oak (Quercus rubra).

- Both oak species appreciate well-drained glacial soils, which are common in this region, and here they drain down the hill.
- Both have some drought tolerance, both provide acorns (very important to wildlife), and both are long lived (but white oak way longer 500 years compared to 150). The 'charter oak', our state tree, was a white oak.

Head back uphill, back on to the blue trail. Pass red trail off to the left. ID a pitch pine (Pinus rigida)

- Pitch pines are fire-dependent so they have less and less habitat around here. This tree has holes from a bird trying to get at borer beetles, and sap-filled holes where it pushed the beetles out by itself.

Left on yellow, uphill. ID Hemlock (*Tsuga canadensis*) in a grove of them.

- Hemlocks are extremely shade tolerant and grow in the understory for a long time until they get a chance to get up in the canopy, and then their dense, low foliage shades out competing seedlings.

Uphill, cross a stream, keep going up, ID a sugar maple

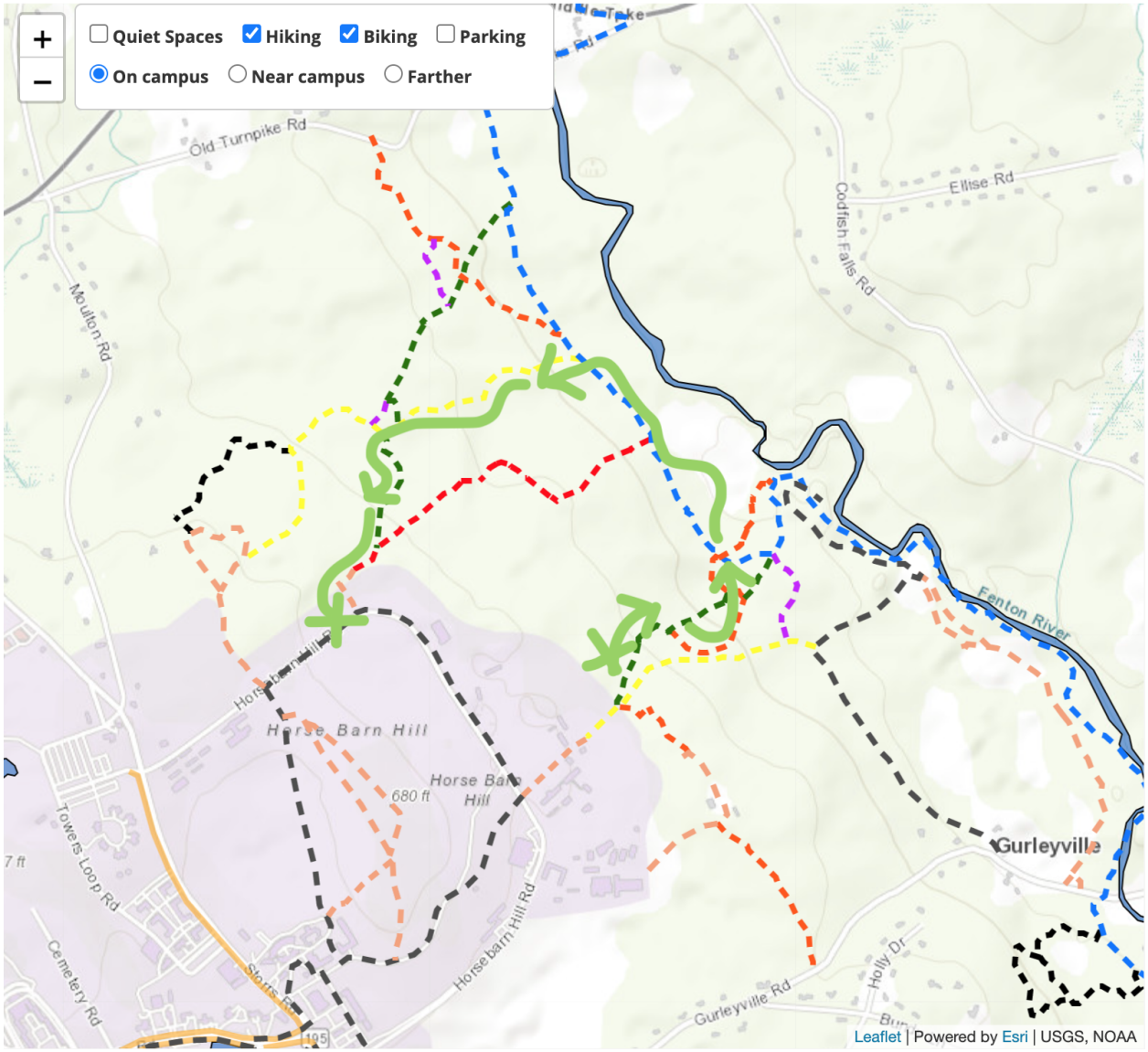
- Sugar maples are a long-lived and shade tolerant species too. They live in the understory as seedlings and saplings and in areas with deep, moist soil, but not standing water, they will take over. And their close cousins the red maples take over where there is standing water. Red maple swamps are common around here.

Left on to the green trail. Go around the blowdown. ID it as an American Beech (fagus grandifolia)

- Check out the smooth bark, and the beech bark and beech leaf disease evidence in surrounding saplings. Beech leaf disease was only discovered in the state 3 years ago and is already very widespread.

Follow the green trail to the red and out to the field. At the kiosk (a wood product) we can see all the dead Ash trees along the field edge, and maybe hear the harvest operation that is taking live ash down in the forest

- Salvage harvesting is producing usable wood because ash becomes pretty useless if it dies standing, and cutting live trees encourages sprouts from the stump, which won't be big enough to be infested by emerald ash borers for many years.



Map is from here:
https://naturerx.initiative.uconn.edu/where-to-go/