

# York County Envirothon – 3<sup>rd</sup> - 4<sup>th</sup> Grade Forestry

## Study Forest Species Fact Pack!

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#### Sources

# Chestnut Oak

*Quercus montana*

## Identification Features:

- ALTERNATE branching pattern.
- SIMPLE leaves with WAVY MARGINS.
- Male flowers are catkins in spring. Female flowers are spikes.
- Fruits are ACORNS.
- Medium size tree up to 80 feet tall.

## Habitat:

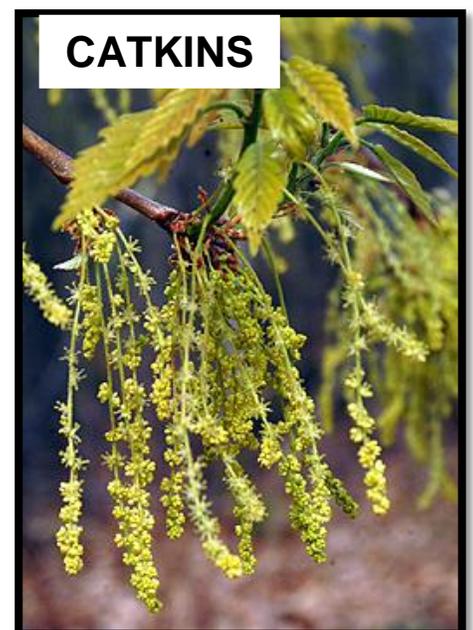
- Forests

## Wildlife Value:

- Oak leaves are food for over 500 different butterflies and moth larva including the Red-spotted Purple Butterfly and the IO Moth.
- White-tailed deer eat chestnut oak sprouts.
- Many mammals eat the acorns of oak including the white-tailed deer and chipmunks.
- Birds like wild turkey eat the acorns.
- Birds, mammals and bees use chestnut oak cavities for nesting.

## Human Value:

- Chestnut oak wood is used as lumber to make furniture, floors, and railroad ties.
- Traditionally acorns of many oak trees were used by Native American peoples as a food and medicine source.

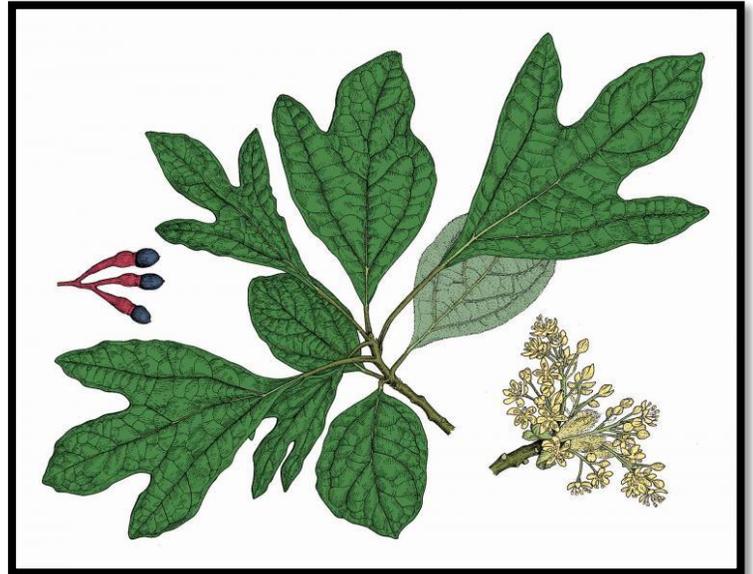


# Sassafras

## *Sassafras albidum*

### Identification Features:

- ALTERNATE branching pattern.
- SIMPLE leaves, ELLIPTICAL or OVATE in shape. ENTIRE leaf margins. Variably LOBED (unlobed, 2-lobed, or 3-lobed).
- Flowers are yellow-green in spring.
- Fruits are dark blue DRUPES on a red stalk in fall (appearing only on female plants).
- Crushed leaves & twigs are fragrant with a spicy-sweet aroma.
- Small to medium size tree reaching 60 feet tall.



**LEAF, FLOWER & DRUPE**

### Habitat:

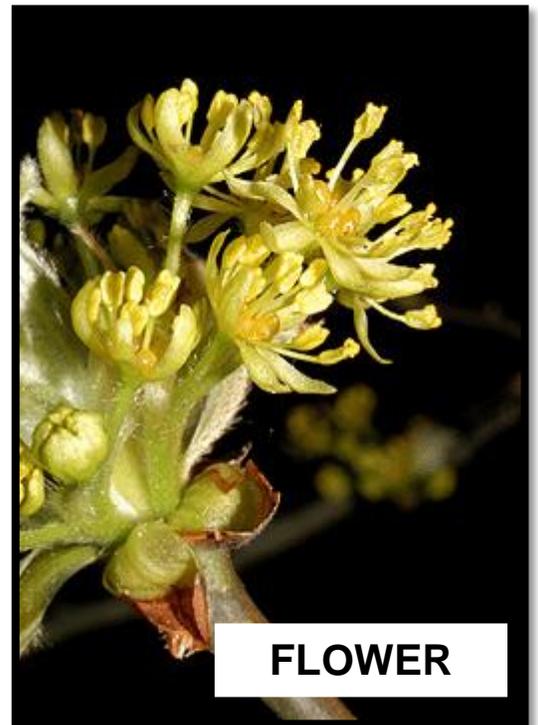
- Forests, fields, thickets.

### Wildlife Value:

- Fruits are eaten by turkeys, quails, mockingbirds, woodpeckers, and more.
- Fruits are eaten by bears, beavers, rabbits, & squirrels.
- Beavers eat the bark and wood.
- White-tailed deer eat the twigs and leaves.
- Leaves are food for spicebush swallowtail caterpillars.

### Human Value:

- Oil harvested from the roots and bark is used to perfume soap & make tea.
- Oils have been used to flavor root beer in the past.
- Beautiful fall colors – yellow, red, purple.
- Grows early in succession sequences after a forest has been disturbed.



**FLOWER**



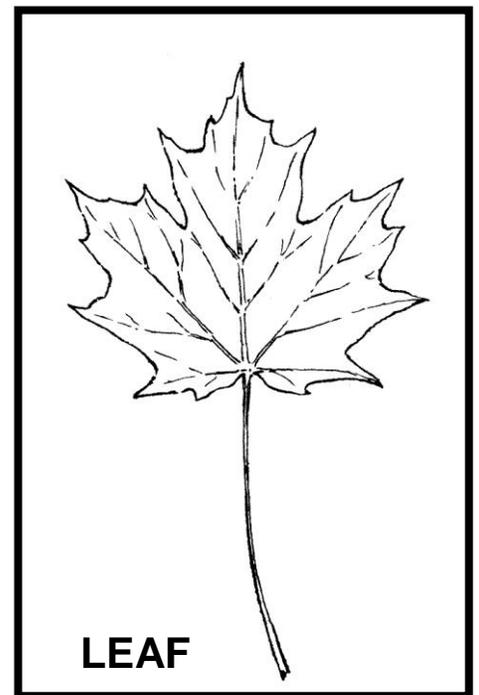
**LEAVES**

# Sugar Maple

## *Acer saccharum*

### Identification Features:

- OPPOSITE branching pattern.
- SIMPLE leaves have ROUND shape with five LOBES.
- Leaves turn bright yellow, orange, or red in fall.
- Flowers are yellow-green and hang from a long skinny stem in the spring.
- Seeds are called SAMARAS. They spin as they fall to the ground like helicopters.
- Large tree reaching 100 feet tall.



### Habitat:

- Moist woods and yards

### Wildlife Value:

- Birds, grey squirrels, and flying squirrels eat the seeds of sugar maple.
- Deer, moose, squirrels, porcupine, and other animals eat the twigs, buds, and bark.
- Songbirds, woodpeckers, and cavity nesters build nests in sugar maple.
- Bees and other insects visit the flowers of sugar maples to collect pollen.
- Leaves are eaten by over 285 types of caterpillars and many other insects.

### Human Value:

- Sugar maple wood is used to make furniture, musical instruments, bowling pins, and hardwood floors.
- Sugar maple sap is collected and boiled into maple syrup.
- Native Americans used maple sap for sugar, candy, as a beverage, fermented into beer, and soured into vinegar.

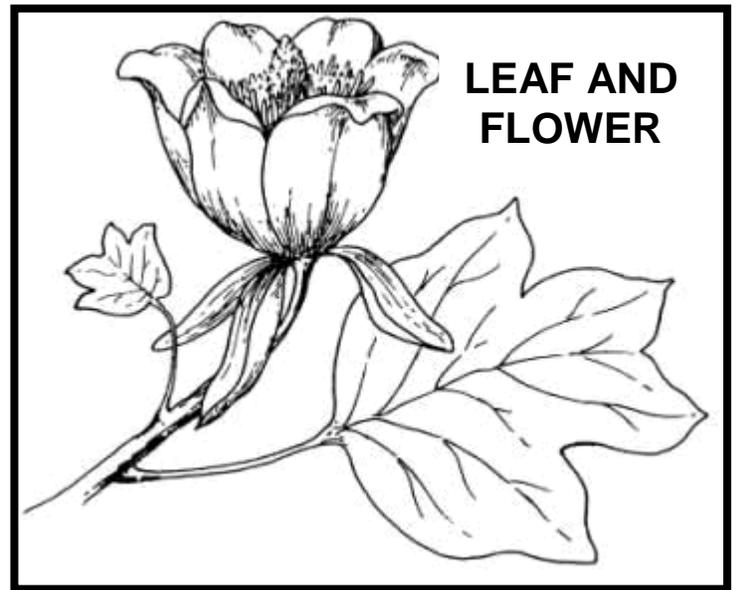


Porcupines eat the twigs, bark, and buds of sugar maple.



# Tuliptree

*Liriodendron tulipifera*



## Identification Features:

- ALTERNATE branching pattern.
- SIMPLE leaves are ROUND shaped with four LOBES.
- Buds are large and flattened like a duckbill.
- The seeds form cone-like clusters. Each seed in the cluster is winged and called a SAMARA.
- Flowers grow high in the trees in the summer and look like tulips. They are yellow and orange.
- One of the tallest trees in eastern forests reaching up to 200 feet tall.

## Habitat:

- Forests near streams.

## Wildlife Value:

- Seeds are eaten by songbirds, game birds, rabbits, squirrels, and mice.
- White-tailed deer eat young twigs.
- Leaves are food for the Eastern Tiger Swallowtail butterfly caterpillar and some of our giant moths including the Tulip-Tree Moth and Promethea Moth.

## Human Value:

- Tulip trees are planted on streets and yard for shade and beauty.
- Tulip tree wood is used to make pulpwood for paper.
- Tulip tree is planted for reforestation of damaged sites because it grows quickly.
- Tulip tree is a valuable hardwood. It is used for furniture, general construction, plywood, and boxes.
- Native American's used tulip tree wood to make dugout canoes.

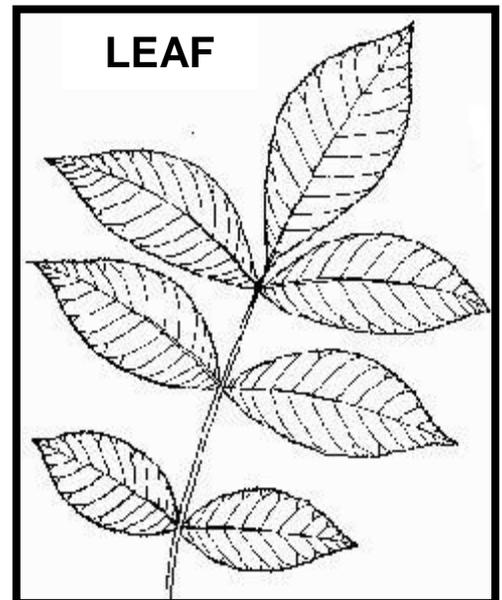


# Hickory

*Carya sp.*

## Identification Features:

- ALTERNATE branching pattern.
- PINNATELY COMPOUND leaves have ELLIPTICAL FINELY TOOTHED leaflets.
- Flowers in the spring with male CATKINS and female spikes.
- Seeds are nearly round nuts covered in a thick husk that splits open when ripe.
- Large tree reaching 70-80 feet tall.



## Habitat:

- Forests, hillsides.

## Wildlife Value:

- Hickory nuts are food for squirrels, chipmunks, black bears, gray and red foxes, rabbits, white-footed mice, mallards, wood ducks, bobwhites, and wild turkey.
- Hickory leaves are food for around 200 species of caterpillars (butterflies and moths) including the Luna Moth and the Monkey Slug.
- Many animals take shelter in the branches and cavities of hickories.



## Human Value:

- Hickory wood is heavy, hard, and strong. It is used for tool handles, furniture, firewood, charcoal, and to smoke meats.
- In history hickory wood has been used to make bows (bow and arrow) and wheel spokes for carriages.
- Nuts are edible to humans.
- Native Americans crushed the nut kernel to make cooking oil and bread flour.



The Monkey Slug caterpillar is the larva of the Hag Moth.

# Virginia Creeper

*Parthenocissus quinquefolia*

## Identification Features:

- ALTERNATE branching pattern.
- PALMATELY COMPOUND leaves with five toothed leaflets.
- Small green flowers appear in the spring.
- Small clusters of bluish-black berries appear in early summer.
- Woody vine.

## Habitat:

- Forests, forest clearings, fencerows, and stream banks.



LEAVES

## Wildlife Value:

- Virginia Creeper berries are eaten by birds, mice, skunks, chipmunks, squirrels, cattle, and deer.
- The leaves provide cover for small animals.
- Vines provide birds with perches, nesting sites, and places to find food.
- Virginia Creeper makes a great ground cover on shady slopes to prevent erosion.



BERRIES

## Human Value:

- Berries are highly toxic to humans and may be fatal if eaten. The sap can cause skin irritation for some people.
- Virginia Creeper bark has been used medicinally for many purposes including a cure for diarrhea and cough syrup.
- Used in gardens because of its beautiful fall leaves. It looks great covering walls and fences.



# Eastern Hemlock

*Tsuga canadensis*

## Identification Features:

- Leaves are EVERGREEN.
- Leaves are flattened NEEDLES attached singly to branches.
- Seeds are in tiny egg-shaped cones  $\frac{3}{4}$  inch long. Under each cone scale are two small winged seeds.
- Large, long-lived tree. Some old growth forests have hemlocks that are up to 400 years old!

## Habitat:

- Cool, moist forests.

## Wildlife Value:

- Ruffed grouse, wild turkey, and songbirds eat the seeds.
- Many birds find shelter on the branches of Hemlock trees.
- The deep shade that hemlock trees provide helps keep forest streams cool.

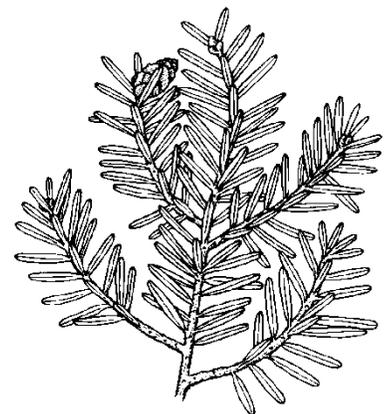
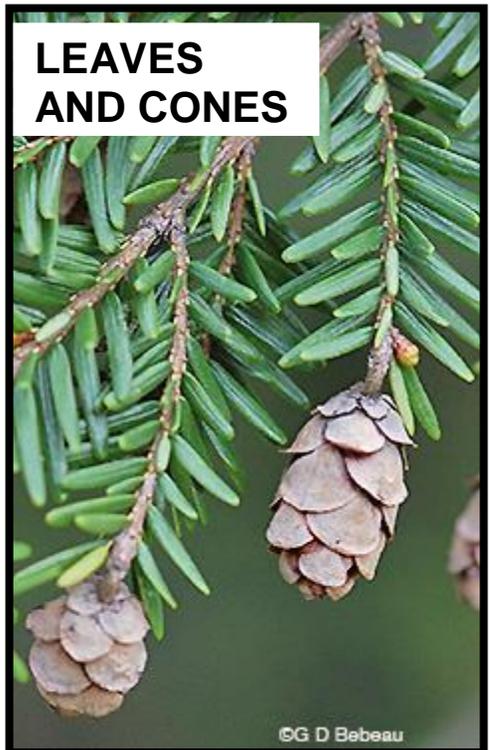
## Human Value:

- Tannic acid was harvested from Hemlock tree bark and is used for tanning leather.

Crossbill Eating Hemlock Seeds



- Wood was used in construction.
- State tree of Pennsylvania.
- Native Americans used hemlock wood as an ingredient in bread and soups. Tea was made from leaves which have high vitamin C content.
- Used in landscaping as a visual or wind screen. It can be shaped into rectangular hedges.



# Eastern Red Cedar

## *Juniperus virginiana*



### Identification Features:

- Two types of EVERGREEN leaves. Older leaves are SCALY and young leaves are sharp-pointed.
- Red Cedar has two types of flowers. Male flowers are yellowish-brown and female flowers are light bluish-green.
- Flowers turn into berry-like cones in September.
- Bark is reddish-brown and peeling off.
- Small tree reaching up to 40 feet tall.



### Habitat:

- Fields, roadsides, forest understory

### Wildlife Value:

- Cedar is the host plant for over 35 species of butterfly and moth larva including the Juniper Hairstreak.
- Young Red Cedars get eaten by white-tailed deer, mice, and Eastern cottontails.
- Cones are eaten by many birds and mammals including American robins, cedar waxwings, purple finches, American crows, woodpeckers, skunks, raccoons, and many more.
- Red Cedars are important cover for small mammals and make great nesting sites for birds.
- Many fungi like to grow on Red Cedar.



### Human Value:

- The wood of Red Cedar is used for fence posts, poles, paneling, furniture, pencils, pet bedding, and chests.
- Red Cedars are planted in backyards and parks to attract wildlife.
- Red Cedar wood has insect-repelling properties, so it's used to help repel clothing moths by putting wood or shavings in closets and chests.



# **Excellent Tree Fact Resources!**

## **Virginia Tech Dendrology Factsheets**

<http://dendro.cnre.vt.edu/dendrology/factsheets.cfm>

## **Common Trees of Pennsylvania**

[http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr\\_20029752.pdf](http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_20029752.pdf)

## **USDA Plants Database**

<https://plants.usda.gov/java/>

## **US Forest Service – Tree Factsheets (includes wildlife value)**

[www.fs.fed.us](http://www.fs.fed.us) (Google species name and “Index of species information”)