



# It's a Breeze!

Acorns are the fruit of the **White Oak** tree. Each acorn has a single seed. How do White Oaks and other plants make their seeds?

Seeds are produced when pollen is moved from the male part of a flower (the anther) to the female part (the stigma). This is called pollination.

When we think about pollination, we often think about pollinators. These are animals that carry pollen when they move from plant to plant. Not all plants rely on animal pollinators, though. White Oaks, for example, produce their acorns with the help of wind pollination.

White Oaks contain both male and female flowers on the same tree. This makes them monoecious. Trees that produce either male or female flowers, not both, are dioecious. The male flowers of the White Oak are called catkins (*pictured above*). These droopy, greenish yellow blossoms are made up of hundreds of smaller flowers



*To find one of the oldest White Oaks at the Arboretum, take a stroll along the Upland Walk. Need help with identification? **Watch our introduction to White Oak video.***

along a central stem. Unlike their showier counterparts, the red, petal-less female flowers of the White Oak are so small that they can only be seen with a magnifying glass.

Even though White Oaks are monoecious, they usually depend on pollen from a neighboring tree to form acorns. Pollen is shed when wind causes the droopy catkin to shake.

Take a walk at the Arboretum in early spring, observe different tree species, and make notes about how you think they produce seeds. Look them up when you get home; how many did you get right?

## ART IN MOTION

*To observe how wind can move things, try this:*

1

Place a large sheet of paper on the ground. Be sure to have newspaper underneath to avoid messes. Better yet, do this outside on the grass!

2

Squeeze several blobs of washable paint onto the paper.

3

Using a drinking straw (paper or reusable, if you have it!), blow the paint across the paper. Watch how the colors mix and swirl.



**Get Creative:** *Design a flower that is pollinated by wind. Think about the features your flower would need to help the wind work its pollen-moving magic. Sketch the flower in your nature journal and give it a name.*

PHOTO: SCHOOLHOUSE FARMHOUSE STUDIO



# Home Sweet Home

More than 500 animals depend on the **White Oak** tree for food and shelter.

Besides the many insects, birds, and mammals that feed on the oak's leaves and acorns, a lot of animals call oaks home.

Ever notice a big, leafy ball in the branches of a White Oak tree? You were probably looking at a squirrel's nest, also known as a drey. Squirrels build their nests in the canopy,

or upper layer, of trees. They like to be high enough so that predators can't reach them, but not so high that the wind will blow their nest away. Each drey has several entrances and is home to several squirrels. Take a walk at the Arboretum and keep a tally of all the dreys you see.



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## SQUIRREL SCAVENGER HUNT

While squirrels and acorns go together like peanut butter and jelly, lots of other animals rely on the acorns of the White Oak for their food, including wild turkeys, foxes,

bluebirds, wood ducks, deer, chipmunks, pheasants, and even black bears (which sadly no longer live on Maryland's Eastern Shore).

We all know that squirrels are nuts for

nuts, but did you know that they also like to eat other forest finds?

Take a nature scavenger hunt. How many types of squirrel food from the list can you find?

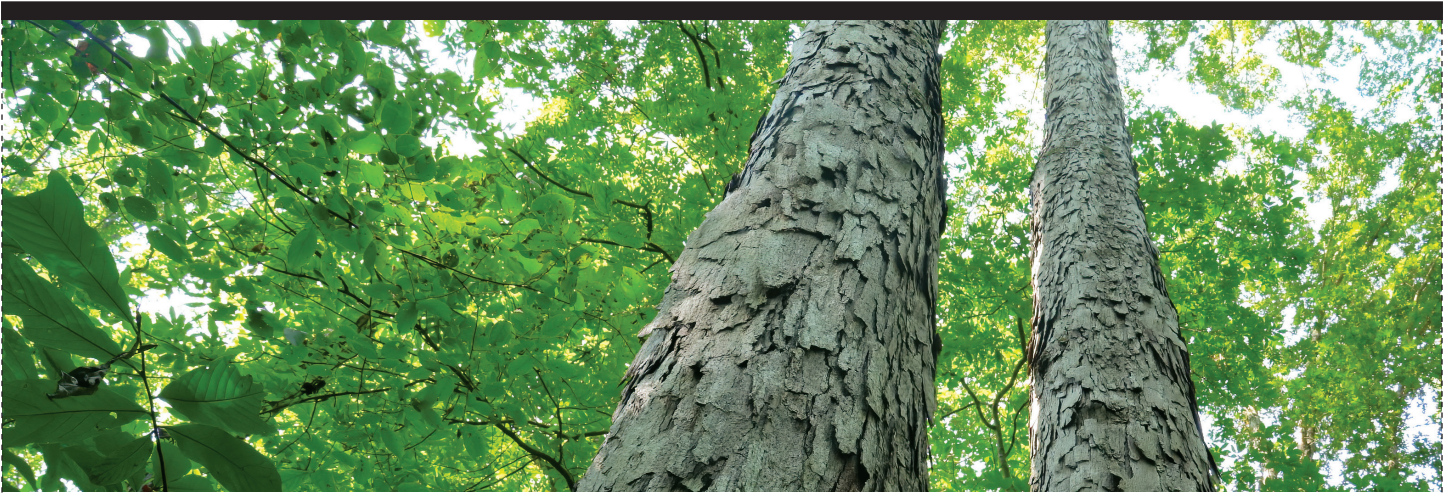
### TODAY'S MENU

- SEEDS
- FRUIT
- INSECTS
- FUNGI
- BIRD EGGS

 **Can't make it to the Arboretum and don't have squirrels nearby?**  
*Sketch a squirrel feasting on the items from the list in your nature journal.*

PHOTOS: MATT JONES/CC BY-SA 2.0 (TOP), IRINA K./STOCK.ADOBE.COM (MIDDLE)





# Tree Traits

**White Oaks** can live to a ripe old age of 200–300 years; some have reached ages of over 400 years!

How do we know how old a tree is? One way is to examine its rings. Each year, a tree puts out a layer of light wood followed by a darker layer. A light and a dark band together are the growth of one year. To calculate the age of a tree, count either the dark bands or the light bands, not both.

We can learn more than just a tree's age by examining its rings. Wide rings indicate good growth years (plenty of sun and rain), while skinny rings are a sign of drought. Rings that curve inward may indicate that something was leaning on one side of the tree. Forest fires and insect infestations can lead to blackened rings.

For a quick guesstimate of a tree's age without having to see its rings, some arborists use this formula based on how many people it takes to wrap their arms around the trunk:



This is a guesstimate only! Why? Different species of trees have different growth rates, and different people have different arm lengths. Still, it's a fun way to get a rough idea of how old a tree is. Walk outside and try it!


 **Can't make it to the Arboretum and don't have trees nearby?** Look at the photos of tree rings on the following page. What do they tell you about the life of the tree?

PHOTO: SCHOOLHOUSE FARMHOUSE STUDIO



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## MORE METRICS

White Oak trees are among the tallest in our eastern forests, growing between 80 and 100 feet high! For a quick way to estimate the height of a tree, try this:

**1**

Stand with your back to the tree. Bend over so that you are looking at the tree from between your legs.

**2**

Walk away from the tree in this position until you're able to see its top from between your legs. The distance from you to the tree is approximately the height of the tree.





## TREE RINGS

*What do these tree rings tell you about the lives of these trees?*



PHOTOS: STUART ANTHONY/CC BY-NC-ND 2.0 (LEFT), BILL KASMAN/CCO 1.0 (RIGHT 2)