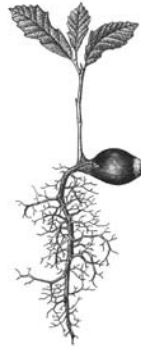


McFarland School District

# NATURE



# NOTES

Outdoor Lore, Learning, and Activities for

Families and Nature Lovers of All Ages

**In This Issue.....**

- All About Owls
- Animals in Winter: Tracks, Signs & Scat
- The Art & Science of Snowflakes
- Twigs: Knowing your Winter Trees
- Moon Lore and Phases
- Family Activity and Reading Guide

## LIVE.....LEARN.....GROW in 2010!

Welcome to the first edition of Nature Notes, a newsletter for McFarland School District families interested in discovering what the outdoors has to offer in all of its seasons.

We are blessed to live in a community where Nature abounds, from Lake Waubesa and the surrounding marshes, to the Yahara River and the many natural grassy and wooded areas to explore. Students have enjoyed renewed interest and opportunities for outdoor education in the School Forest next to Indian Mound Middle School and recently planted a one-acre native prairie at Waubesa Intermediate School.

Even though it is winter now, we don't need to stop exploring the nature around us.



*Red Fox (Vulpes vulpes) , an animal often active in winter.*

In fact, winter offers its own quiet beauty and reveals mysteries to us that are missed in the riot of growing green leaves and grasses of summer.

In this issue, we'll look at the fantastic frozen forms of snowflakes, the symmetry of sleeping twigs, discover how to be a detective of winter animal activity, and learn about those mysterious creatures of the night....owls.

We often miss the sights and sounds of the night, as we huddle in the warmth and light of our homes. But out there in the cold clear sky are bright stars, constellations, the phases of the moon; it's worth bundling up and venturing out in the frosty air to realize for a moment our place in it all.

Enjoy the season!  
Janet Moore



## ANIMALS in WINTER



While some animals hibernate, much of our wildlife is quite active in the winter, hunting for prey or eating food stored for the winter. On a quiet morning in the woods after a fresh snowfall, you will often see tracks and signs of animal activity,

giving clues to who has been out and about and what they've been up to. You can find out where animals travel, what they eat, where they sleep, and much more....all by learning to identify their tracks, scat and signs they leave behind. There are many good track-

ing guidebooks out there; we've included a short guide to some of the most common animal tracks to get you started inside this issue. As you follow a set of tracks, a "story" often emerges. You might see some chewed twigs, a dug-up stash of half-

eaten nuts, or a set of tracks that mysteriously stops. Did the animal go up a tree, down a hole, or get taken by a hungry owl? Discover the answers to these and other questions as an "animal detective" this winter.

# ALL ABOUT OWLS

## Owls in McFarland

By Andy Paulios

McFarland's parks, rivers, wetlands, and forested urban areas are home to two species of breeding owls; the Great-Horned Owl and the Eastern Screech Owl. Great-Horned Owls are the more noticeable of the two owl species, but Screech Owls are undoubtedly more common.

Territorial horned owls can be heard in late November all the way through March when chicks are hatching and mom and dad are busy feeding their young. Horned owls are most often heard giving their 5-7 note hoot calls in early evening or pre-dawn. They do not build a nest, but rather steal an older nest from a Red-tailed Hawk or an American Crow. They begin laying eggs in late January to early February and the young hatch in March. They feed on a wide variety of mammals, birds, amphibians and anything else that they can catch! When Lower Mud Lake concentrates waterfowl in spring they will routinely patrol the large flocks of coot and ducks for an easy meal at dusk. Residents interested in listening for horned owls can try Lewis Park at dusk, Marsh Woods Park or the Dog Park area.

Great-Horned Owl in flight

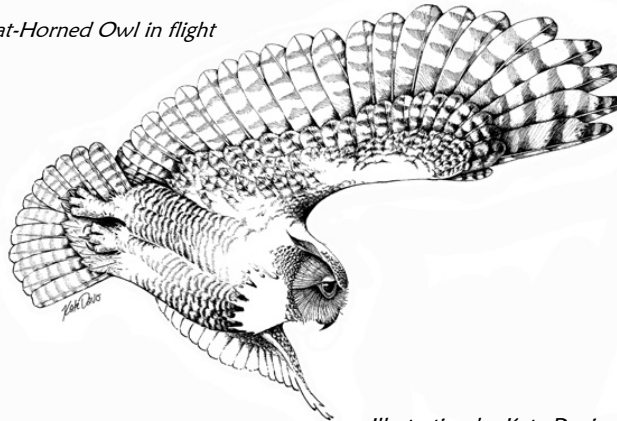


Illustration by Kate Davis

Andy Paulios is an avid birder and McFarland resident who can often be seen exploring area parks. He is the coordinator for the DNR Wisconsin Bird Conservation Initiative. Join us for a guided night hike with Andy on February 28 to look for owls.

Eastern Screech Owls are more common than horned owls, but are not as noticeable or vocal. They have smaller territories than horned owls and specialize on eating small mammals within oak savannas and woodlands. Screech owls are cavity nesters and will routinely nest or roost in wood duck boxes. Screech owls become vocal in late Fall and continue sporadically through winter when they become vocal again in March and April. Their main calls are a bouncing "trill" on one pitch or a descending whinny. Good places to look and listen for screech owls include Indian Mound Park, Marsh Woods Park, and other wooded parks that have large oaks and an open understory.

### Owl Facts

- Owls are mostly nocturnal, using their extremely keen eyesight and hearing to hunt at night.
- Owls can't move their eyes, but can rotate their heads almost completely around.
- They swallow their prey whole and regurgitate the indigestible hair and bones as "owl pellets".
- Specially designed feathers allow owls to fly silently through the air.
- Great-Horned Owls are large: 18 to 25 inches long and weighing 32 to 64 ounces.
- Eastern Screech Owls are small; 8 to 9 inches long and weighing only 7 ounces.

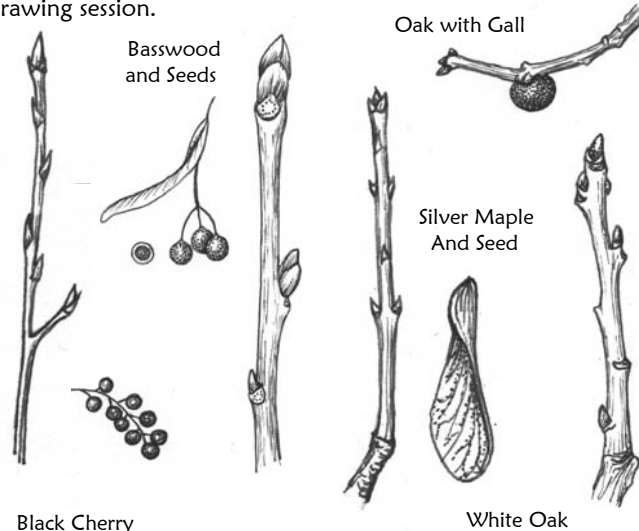
## Twigs: ID your Winter Trees

In Wisconsin, winters are long, branches are bare for four to five months of the year...learning how to identify trees by their winter twigs, buds and bark is a skill worth honing for any avid (or budding!) naturalist.

To learn how, you'll need to slow down, look closely, and notice the small details as well as the overall shape of the tree. If at first this is difficult, "stick" with it....there are some great guides and resources listed in the activity section of this issue if you get "stumped".

Drawing is a surefire way to get yourself in the observation mode. Collect a few twigs to take home if it's cold; you might also take photos to help you look up and identify the different trees you find in the winter woods.

Here are a few twigs from a recent winter wandering and drawing session.



"Sometimes our fate resembles a fruit tree in winter. Who would think that those branches would turn green again and blossom, but we hope it, we know it."  
-Johann Wolfgang von Goethe



# The Art and Science of SNOWFLAKES



As I write this, the first real snowflakes of winter are flying past the window, accumulating in a blanket of white three inches deep on the lawn, signaling the now- official start of winter.

Look very closely at one of the millions of individual flakes in that sea of white and you may see a masterpiece of design and symmetry any artist would envy....all caused by the formation of frozen water crystals under certain conditions of

temperature and humidity. Depending on these factors, snowflakes form with basic characteristics and shapes, and seemingly endless variety. They say no two are exactly alike.

I was fascinated last winter to discover Ken Libbriht's *Field Guide to Snowflakes*, a very interesting and enlightening look at this frozen world. Filled with breathtaking close- up photographs of real snowflakes and a thorough explanation of the science behind snow crystals,

it's a treat for the eye and the mind. My favorite is the "stellar dendrite", which I have long admired whenever they've fallen on my coat sleeve. These are the classic perfect snowflake, formed in high humidity around 15 degrees.

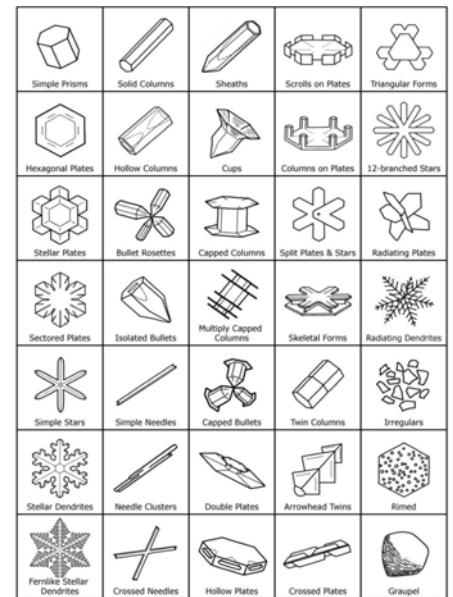
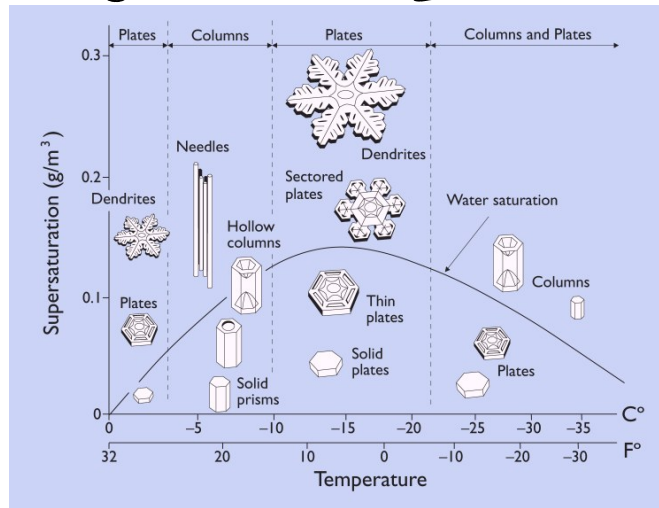
To get a closer look at snowflakes, you might want to use a magnifier; lay out a black cloth or piece of cardboard and see what you discover in the next snowfall!

## Snowflake Watching Tips

- Use a piece of cold black cloth or construction paper to "catch" snowflakes.
- A magnifying glass or loupe magnifier helps to see details-5x magnification is recommended.
- Hold your breath when looking at snowflakes up close-or they could melt!
- Be patient and keep looking – very few "perfect" snowflakes exist in nature.

Nature is full of genius, full of divinity; so that not a snowflake escapes its fashioning hand.  
-Henry David Thoreau

## Snowflake Guide



Types of Snowflakes ... SnowCrystals.com

These diagrams show the types of snowflakes formed under different conditions.



## MOON LORE



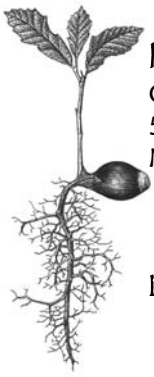
Every 27.5 days, the moon goes from full to new, and back to full again, for a total of eight "phases". While the moon has no light of its own, its reflected light from the sun fills our nights with a silvery glow . Native Americans gave names to each full moon, tying them to a time or event in the passing of the seasons in the natural world they were so

attuned to. December was known as the Cold Moon, when the cold first sets in for winter. January was the Wolf Moon, the time of year when hungry wolves howled in the icy darkness outside the winter camps. February brought the Snow Moon, often the time of year when the snow was deepest. This December,

we will be experiencing a phenomenon known as a "Blue Moon" when there are two full moons in one month. The second one is the blue moon, occurring about once every 33 months. This will happen on New Year's Eve....head outdoors to ring in the new year under the moonlight!

### Winter Full Moon Dates

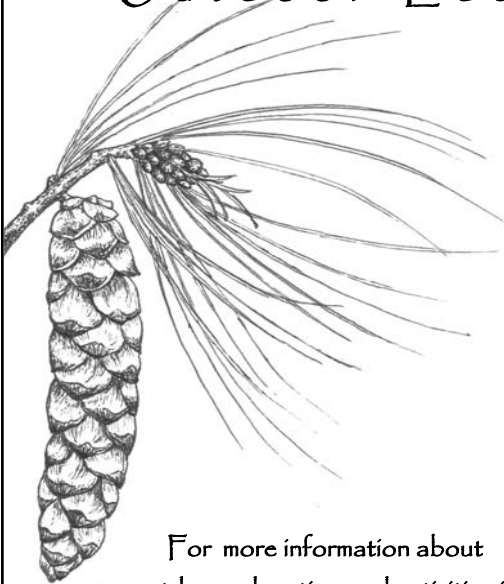
- December 3 Cold Moon
- December 31 Blue Moon
- January 30 Wolf Moon
- February 28 Snow Moon



McFarland School District  
 Outdoor Education  
 5101 Farwell Street  
 McFarland, WI 53558

LIVE.....LEARN.....GROW

## Outdoor Education Updates and Events



For more information about outdoor education and activities in McFarland, please contact:  
 Janet Moore  
 Outdoor Education Coordinator  
 McFarland School District  
 838-4561  
 Janet\_Moore@mcfarland.k12.wi.us

### Calendar of Events

- **DECEMBER 23– JANUARY 3**  
Winter Break,
- **JANUARY 23 NOON**  
School Forest bonfire and Lumberjack Competition
- **FEBRUARY 15 5:30 p.m.**  
Outdoor Education Committee meeting at MHS
- **FEBRUARY 28 7 p.m.**  
Full Moon Owl Walk. Meet at School Forest entrance on Exchange St.
- **VOLUNTEER WORK DAYS**  
Every 2nd and 4th Saturday  
9 a.m. to Noon

Sign Up for the First Annual School Forest

### Lumberjack Competition!

Teams will compete with a crosscut saw for the fastest time sawing through an 8 inch diameter log. This has been a big hit at scout camps and nature centers.....compete for first, second and third prizes and a first place trophy.

Officiated by McFarland's own Leon Moore and Bill Mitchell

**Saturday, January 23 12 Noon**  
 Also enjoy a bonfire and sledding.  
 Contact Janet Moore at 838-4561

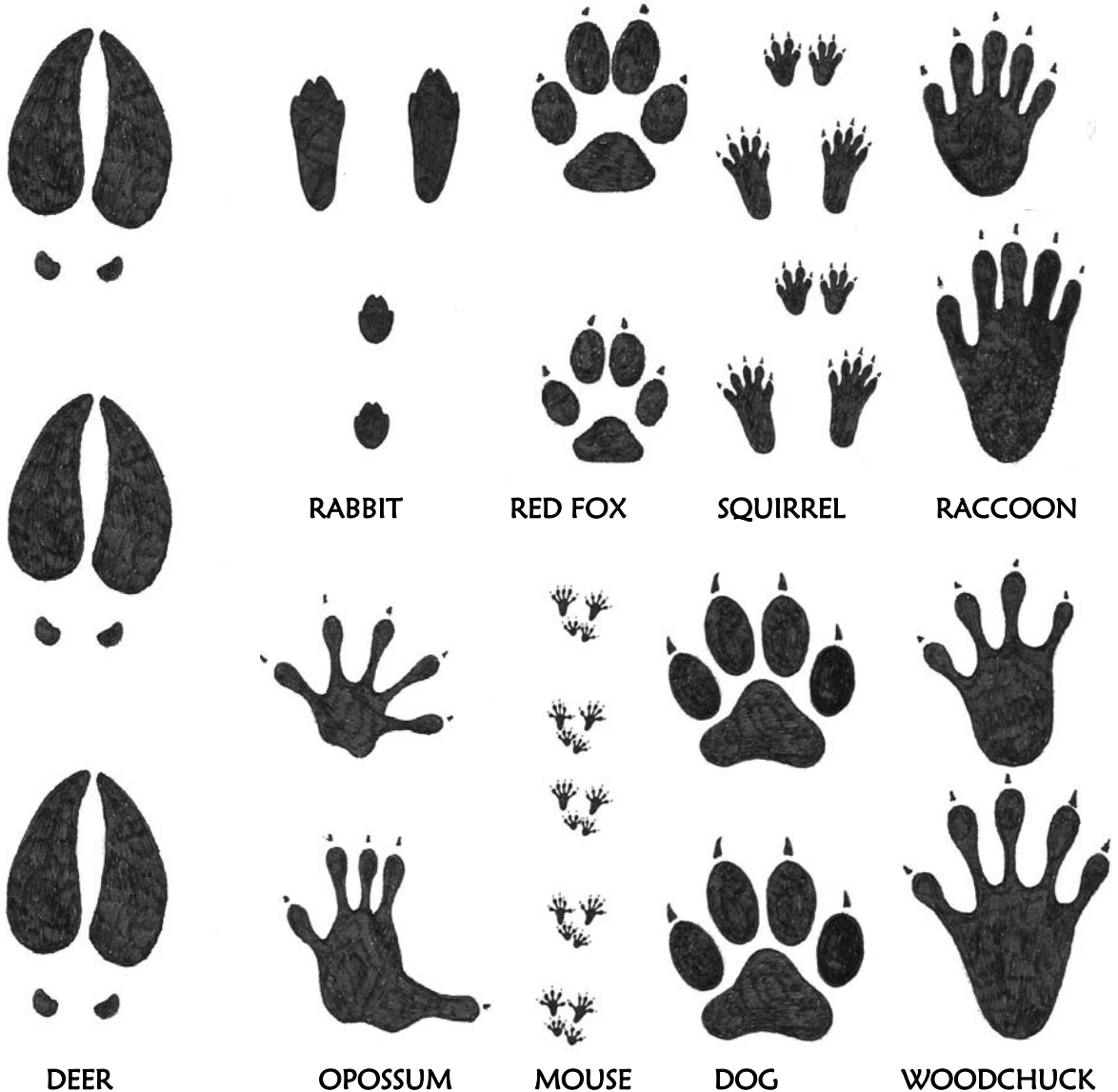


# NATURE in WINTER

## Things to Do..... Things to Learn

### Animal Tracking

Here are some of the common animal tracks you may find in the school forest, area parks...even in your own backyard! You may be surprised at how many tracks and signs of animal activity you see after a fresh snowfall.



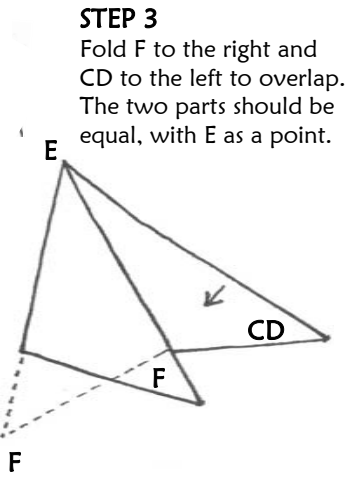
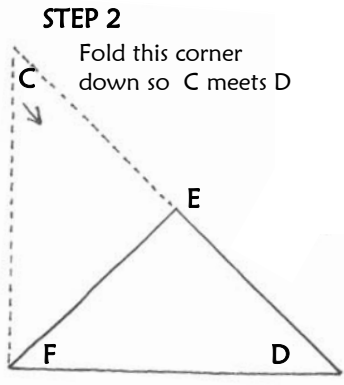
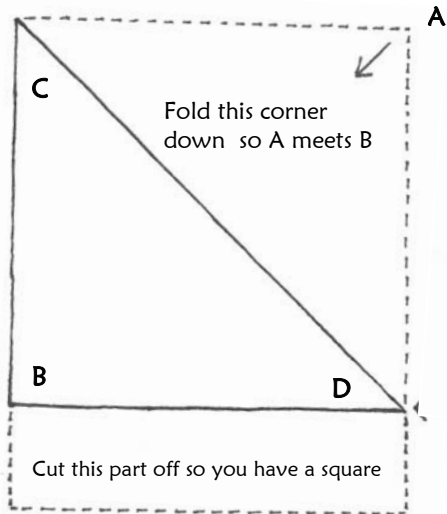
#### Look for these other signs of animal activity:

- Scat, or droppings
- Chewed twigs or bark (deer and rabbits do this)
- Dug up holes in snow or leaves to find buried nuts or acorns (squirrels)
- Buck rubs-where deer rub their antlers on trees
- Deer beds-hollows in grass or snow where deer sleep
- Tracks going in and out of dens; these are active dens with an animal living in them.
- Tracks going up trees or into brush piles; look for leafy squirrel nests high in trees.
- Wing marks in snow where hawks or owls have swooped up prey; owl pellets.
- Bits of fur or feathers

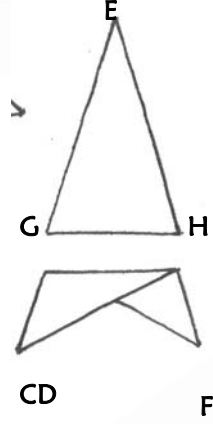
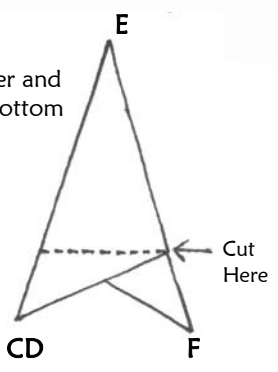
# MAKE YOUR OWN SNOWFLAKES

Try cutting some snowflakes out of paper using the directions and patterns below. Since all snowflakes in nature are six-sided, fold the paper as shown to make snowflakes that look like the real thing. Look at some of the drawings of real snowflakes and try to copy what you see to get started.

**STEP 1** Start with an 8 1/2 by 11 sheet of paper.

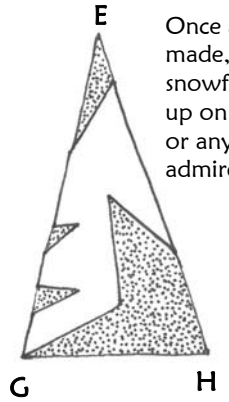


**STEP 4** Turn over and cut off bottom 2 points

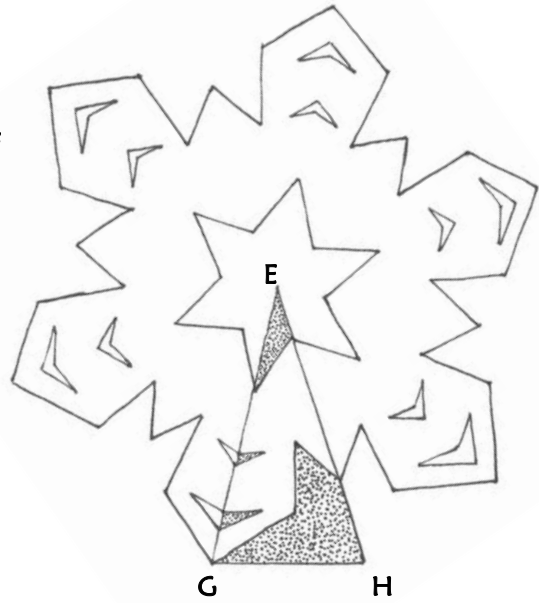


**STEP 5** Now you have a triangle, folded up into 12 sections with 3 points. E will be the center of the snowflake, G will be the 6 points (or "arms") Take a look at the example below to see how to cut the pattern of any snowflake.

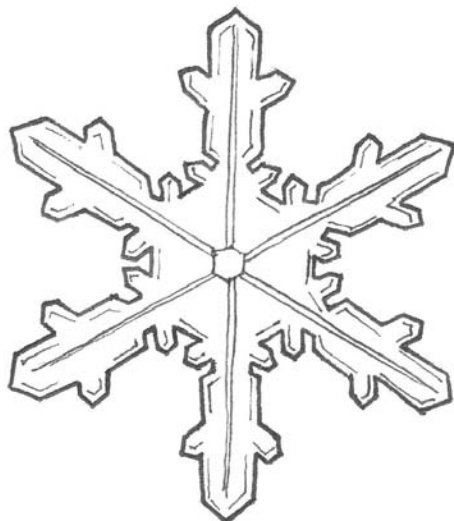
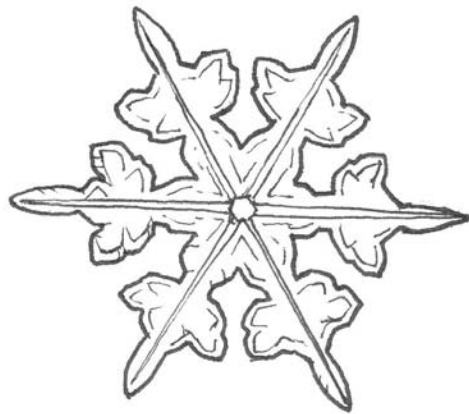
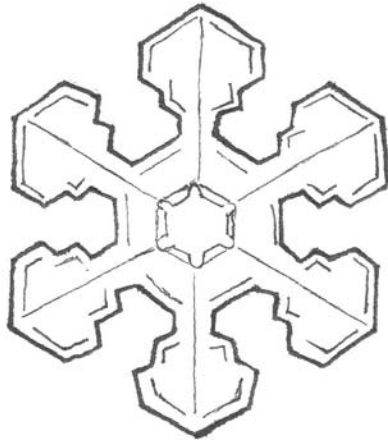
Shaded parts are the negative space that is cut out to reveal the design.



Once all the cuts are made, unfold your snowflake. Hang it up on your window or anywhere it will be admired!



Here are some snowflake designs drawn from photos of real snowflakes.  
You can use these as a pattern or invent one of your own.

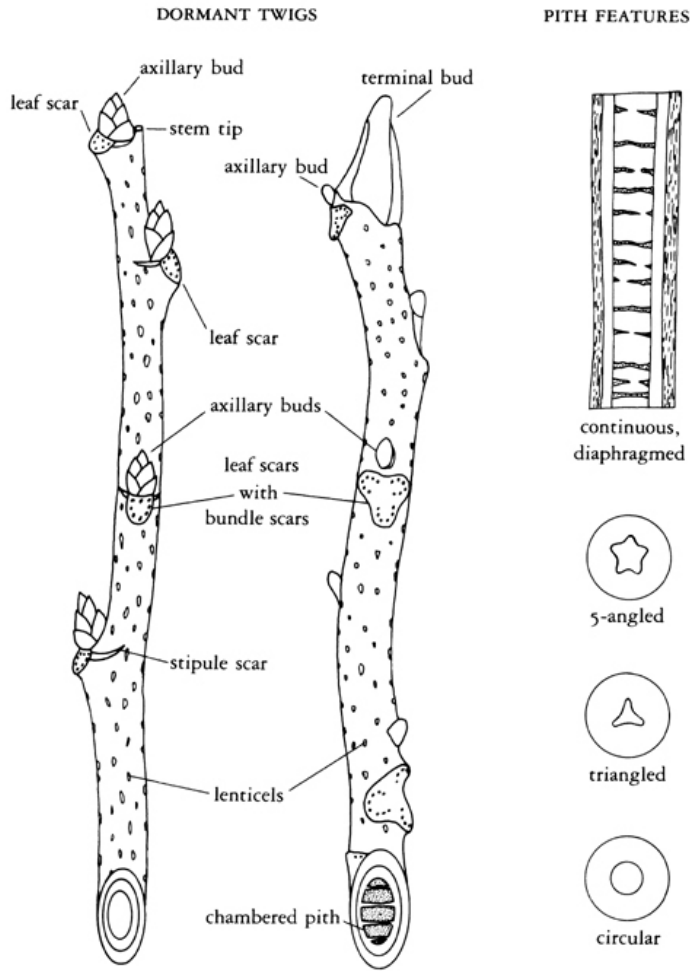


**You've got to try this!**

Go to [www.popularfront.com/snowdays](http://www.popularfront.com/snowdays) and try the virtual snowflake maker. You can design and "cut" snowflakes to send to your friends and post on the web to share with others from all around the world. There are some truly amazing creations to look at.....and no two are alike!

# WINTER TREE IDENTIFICATION

## ANATOMY of a TWIG



About.com.forestry

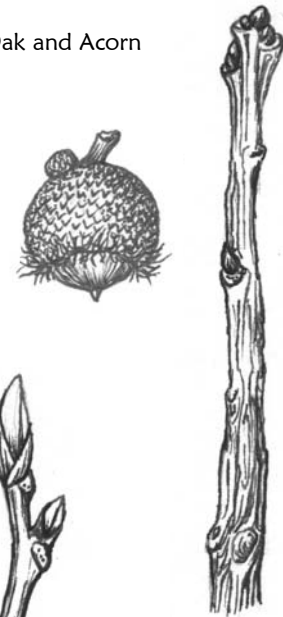
## Clues to Look For:

- Any fruits, seeds or leaves remaining on tree.
- Branching pattern-opposite or alternate?
- Shape of leaf scar-the spot where the stem from last year's leaves was attached.
- Shape of pith inside-cut a small twig to look at a cross section.
- Bark of the tree-some trees have very distinctive bark.
- Overall shape of the tree.

## Trees with Distinctive Bark:

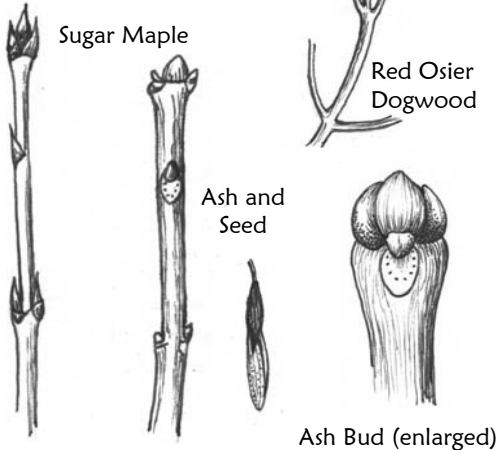
- Shagbark Hickory-Gray bark in vertical shaggy strips.
- Black cherry-Dark brown bark, square chip-like texture.
- Hackberry-Very rough warted bark.
- Birch-White or peeling bark.

Bur Oak and Acorn



## OPPOSITE BRANCHING

Buds and smaller twigs are across from each other.

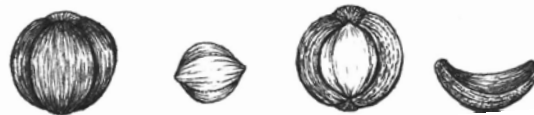


## ALTERNATE BRANCHING

Buds are staggered in an alternating pattern along the branch.

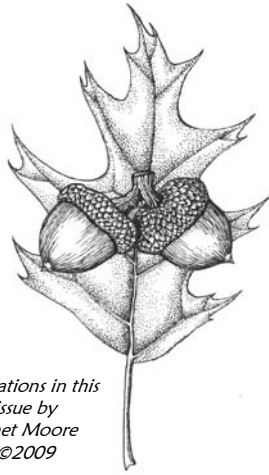
Cottonwood

Shagbark Hickory and Nuts



Oaks often retain their leaves late into winter. White oak leaves have rounded lobes, red oaks have pointed lobes. Bur oak's bark and twigs are thick and corky.

Maple, Ash, and Dogwood are the only native WI trees with this branching pattern.



Illustrations in this issue by Janet Moore ©2009

## TO LEARN MORE.....

Here is a list of a few books and websites where you can learn more about the subjects in this newsletter.

### Snowflakes

#### Books

*The Snowflake: Winter's Secret Beauty* and *Field Guide to Snowflakes* by Ken Libbriecht  
*Snowflake Bentley* by Jaqueline Briggs Martin

#### SnowCrystals.com

The very best resource for everything you want to know about snowflakes.

[www.popularfront.com/snowdays](http://www.popularfront.com/snowdays)

Virtual snowflake maker; make your own snowflake to post and send to friends.

### Animal Tracking

#### Books

*Peterson Field Guide to Animal tracks* by Olaus J. Murie (Peterson Guide Series)

*Animal Tracks of Minnesota and Wisconsin* by Ian Sheldon

*The Science and Art of Tracking* by Tom Brown Jr.

*Tracking and the Art of Seeing* by Paul Rezendez

#### bear-tracker.com

Great online tracking resource to identify animal tracks and much more.

### Winter Tree Identification

#### Books

*Winter Tree Finder* by Steve Nix

#### Forestry.About.com

Fantastic resource! Search this site for the Winter Tree Identification page with a dormant tree photo gallery.

### Moon Lore

#### Books

*Planets, Moons and Stars* by Laura Evert (Children's)

*Sun, Moon and Earth* by Robin Heath (Wooden Book Series, All Ages)

*Thirteen Moons on Turtle's Back: A Native American Year of Moons* by Joseph Bruchac

#### MoonConnection.com

Online photographic moon phase calendar for any month or year, and much more.

### Owls

*Owl Moon* by Jane Yolen (Children's)

*Owls* by Gail Gibbons (Children's)

*Owl: American Indian Legends* by Vee F. Browne (All Ages)

#### OwlPages.com

Everything you'd want to know about owls.

#### www.Audubon.org

Great information on owls and birding in general.

### Like what you see in this issue of Nature Notes?

Join us in our efforts to encourage kids of all ages and their families to get outdoors and explore nature!

Through school-day field trips and activities, community events, and service projects, the McFarland School District is committed to good stewardship of our natural resources and education of our youth.

Your tax-deductible donation will support these efforts, providing funding for:

- Guest speakers and naturalists for quality programs
- Trees, plants, and seeds for our school forest and prairie
- Public trail maintenance
- Supplies and equipment for summer classes and school year Activities.

Yes! I would like to support outdoor education in McFarland through the following donation:

*All memberships include the Nature Notes quarterly newsletter, updates and notification of events through our email list. Make checks payable to McFarland School District Outdoor Education*

\_\_\_ \$15 Individual or Family Membership

\_\_\_ \$30 Sponsoring Member

\$ \_\_\_ Other (Donations are tax-deductible)

Mail To:

McFarland School District- Outdoor Education

5101 Farwell Street

McFarland, WI 53558

Attn: Janet Moore

Name \_\_\_\_\_

Email \_\_\_\_\_

Address \_\_\_\_\_

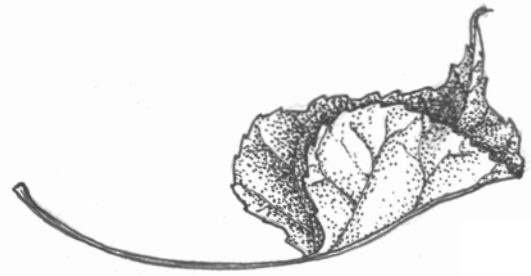
City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

I prefer to receive \_\_\_\_\_ email or \_\_\_\_\_ paper copy of Nature Notes newsletter (check one)

# Winter Scavenger Hunt



Although it may look like nothing is going on in the woods this time of year, there are a lot of signs of bird and animal activity. It's also a good time to observe tree branches, nests, and other things we don't see when everything is covered in leaves.

Below are a few things to find as you explore the woods that will tell you about the animals that live here and how they survive the winter. You might want to bring a camera and take photos of each item as you find them and think about what you might write about your observations. You could add your photos to a journal along with drawing and writing to record your winter adventures.

\_\_\_ Deer Tracks

Many deer travel through here.

Where does the trail lead and why do you think the deer are coming from or going there?

\_\_\_ One Other Animal Track

What kind of track is it?

\_\_\_ One Animal Dwelling

Could be a den, burrow, hole in a tree.....can you guess what lives there?

\_\_\_ Squirrel or Bird's Nest

Look up in the trees for leafy squirrel nests

\_\_\_ Evidence of Animals' Eating

Look for chewed twigs, digging in the ground for stored nuts, etc.

\_\_\_ Tree ID

Look at twigs, bark, and the shape of a tree. Take a photo or a drawing and use a tree key or field guide to identify it.

**BONUS:** Find a track "story" and take photos of it.

Tell what you think happened based on your observations.

Example: You see squirrel tracks, with fox tracks following. Then you see no more squirrel tracks.....what do you think happened there?