

# Join today...visit free!

## Membership

Membership is your passport to visitation all year long. If you did not have a chance to visit all of the Tree Adventure stations today, simply return with your passport and complete your journey any time. Membership information is available at the Visitor Center or at [www.morrisarboretum.org](http://www.morrisarboretum.org).

## Hours

**Weekdays:** 10am-4pm  
10am-8pm Thursdays in  
June, July & August

**Weekends:** 10am-5pm (April-October),  
10am-4pm (November-March)

## Contact Us

**Phone:** 215-247-5777  
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**Website:** [www.morrisarboretum.org](http://www.morrisarboretum.org)

## Visit [morrisarboretum.org](http://morrisarboretum.org) today!

Check out Morris Arboretum's website for:

- Family Fun Activities for the Arboretum and at home.
- What's in Bloom this month.
- Self-guided tours and maps to download.
- Fun and informative videos.
- And more!

Share your Passport to Tree Adventure  
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100 E. Northwestern Avenue  
Philadelphia, PA 19118  
[www.morrisarboretum.org](http://www.morrisarboretum.org)



YOUR PASSPORT TO  
**treeadventure**

## CONSERVATION QUEST

Did you know that all living and non-living things on Earth are connected in a web of life? From the tiniest bacteria that keep soil healthy for plants to grow, to the tallest tips of trees that serve as a habitat to animals that fly, crawl, climb, and slither- everything has an important role on Earth.

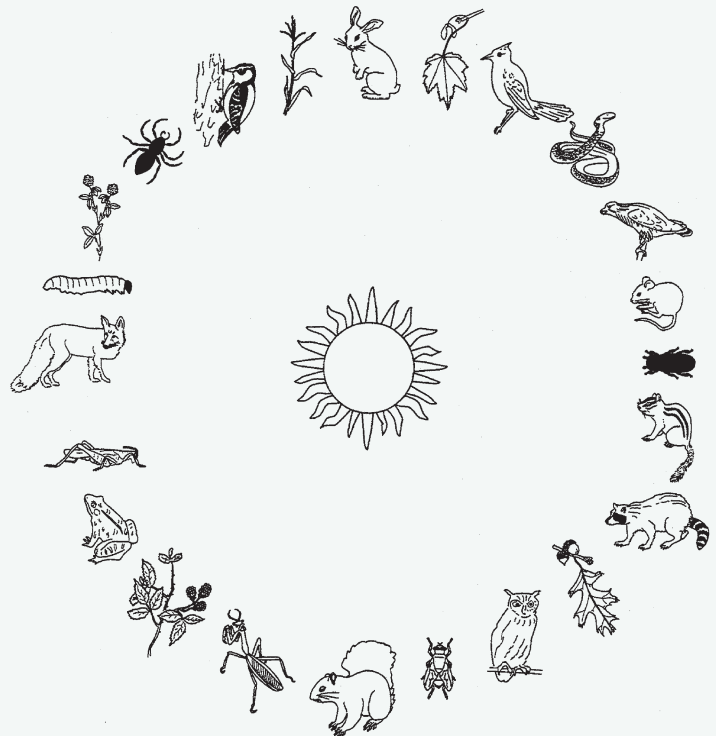
In a healthy habitat, plants, animals and other organisms have plenty of food and shelter. But what happens if parts of their habitat are destroyed? History shows us that human actions can help or hurt the ecosystems that make Earth a hospitable place for all life.



## THE QUEST BEGINS HERE

### Everything's Connected

In the web below, connect plants and animals with their food sources. Remember, the sun supplies the energy needed for plants to make their own food, and many animals eat more than one thing!



We hope this passport inspires you to be a backyard biologist and a planet protector, who will work hard to help make those connections in the web of life stronger than ever.

Once you have completed all the activities and stamped your Passport, make sure you stop by The Shop at Morris Arboretum to receive your badge.



## YOUR KEY TO treeadventure

① Visitor Center & Shop

② Café (seasonal)

③ Out on a Limb

④ Rose Garden

⑤ Pennock Garden

⑥ Orange Balustrade

⑦ Garden Railway (seasonal)

⑧ Holly Slope

⑨ Oak Allée

⑩ Springhouse

⑪ Hillcrest Pavilion

⑫ Swan Pond

⑬ Japanese Hill Garden

⑭ Log Cabin

Explore all five stations of Tree Adventure  
labeled on the map with this symbol.

⑮ Dawn Redwoods

⑯ Key Fountain

⑰ Ravine Garden

⑱ Mercury Loggia

⑲ Seven Arches

⑳ Japanese Overlook

㉑ Fernery

Restrooms

Water Fountains

Emergency Phone

Accessible Paths

Other Paved Paths

Unpaved Paths

# Out on a Limb

## ADVENTURE








Migration is the movement of people and animals from one region or habitat to another. Some birds migrate in the spring and fall in search of food and to nest and raise their young.

Birds learn when to migrate from the changes in daylight hours. They know where to go through cues in nature such as rivers, mountains and coastlines. Some birds navigate by using the sun and stars as well as the pull of the Earth's magnetic field.

Birds risk their lives every time they migrate. Predators and bad weather are the main risks, but human development can also cause harm. When people drain wetlands or cut forests, birds lose places to refuel during migration.

## Match The Bird Bill To The Food It Eats

Different birds eat different foods. Their bills have evolved to make eating easier.

- |   |  |
|---|--|
| 1.  | A. Cone shaped bills are strong for cracking seeds.                    |
| 2.  | B. Thin, slender, pointed beaks are good to pick insects.              |
| 3.  | C. Sharp, "hooked" beaks catch and kill prey.                          |
| 4.  | D. Long, tubular bills sip nectar from flowers.                        |
| 5.  | E. Strong, chisel shaped beaks peck holes in trees for food and nests. |

## True or False

- |               |  |
|---------------|--|
| <b>T or F</b> | 1. Birds that migrate are called migratory birds; birds that do not migrate are called resident birds.       |
| <b>T or F</b> | 2. All birds can fly.  |
| <b>T or F</b> | 3. Birds begin to migrate south when days shorten in autumn and food supplies become scarce.                 |
| <b>T or F</b> | 4. Most birds fly by night in small flocks. This allows them to eat during the day and avoid some predators. |

## CONSERVATION AT HOME

### What you can do to attract birds at home:

- Plant native trees, shrubs and vines to provide places to nest and food for the young.
- Birds need clean water for drinking and bathing. Set out shallow birdbaths. Clean and replace water every few days.
- Provide shelter. Evergreens, brush piles and dense thickets offer critical cover.
- Keep cats indoors for the safety of both birds and cats.
- Visit [http://web4.audubon.org/educate/educators/bird\\_feeders.html](http://web4.audubon.org/educate/educators/bird_feeders.html) for more ideas.

After you finish these activities,  
**STAMP YOUR PASSPORT**



Matching: 1e, 2a, 3b, 4c, 5d  
T/F: 1T, 2F, 3T, 4T





Plants are the basic food source for every creature on Earth, including humans. Plants make their own food when they have water, light and nutrients from the soil.

Sugar made during the summer is stored as starch in the roots during winter. Then, in early spring, trees use that stored starch to jumpstart their growth until their leaves are big enough to produce sugars on their own.

People need starch in their diets, too. Starches are found in vegetables and grains. What are the starches you eat?

### Fill in the blanks using the list of plant parts below.

**acorns berries buds bulbs nectar roots**

1. Squirrels eat \_\_\_\_\_ from oak trees.
2. Bees drink \_\_\_\_\_ from the clethra bush.
3. Grubs eat \_\_\_\_\_ under the ground.
4. Deer munch \_\_\_\_\_ from the oak leaf hydrangea flowers.
5. Voles find \_\_\_\_\_ of tulips to eat.
6. Cardinals search for \_\_\_\_\_ on the holly bushes.

➤ Point to foods animals eat while you walk along the Oak Allée.



### Who is eating all the acorns?

Watch for birds such as jays, pigeons, some ducks and several species of woodpeckers eating acorns. Small mammals, like mice, chipmunks and squirrels feed on acorns. Large mammals such as pigs, bears, and deer also consume large amounts of acorns. During the fall, 25% of a deer's diet may be acorns!

What things do you eat that grow on trees?

### Matching

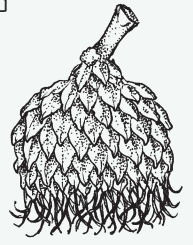
Pick up acorns you find on the ground and match them to the pictures below:



white oak  
*Quercus alba*



chestnut oak  
*Quercus montana*



bur oak  
*Quercus macrocarpa*



willow oak  
*Quercus phellos*



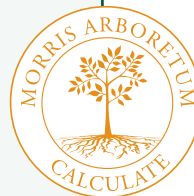
Shumard oak  
*Quercus shumardii*

drawings by Anna Anisko

### CONSERVATION AT HOME

Look for oak trees in your neighborhood. Are birds, animals and weevils (look for tiny holes) eating their acorns? Can you identify any of the trees from the shape of their acorns?

After you finish these activities,  
**STAMP YOUR PASSPORT**



Fill in the blanks:  
1. acorns 2. nectar 3. roots  
4. buds 5. bulbs 6. berries

# Springhouse

## ADVENTURE



Congratulations! You have journeyed to one of the “coolest” places in the Arboretum, the Springhouse! Springhouses were the very first refrigerators. Since homes did not have electricity, many people depended on springhouses to keep food from “spoiling” or going bad.

### To think about and notice:

- Many colonial families did not have a springhouse on their properties. How do you think they kept their food from spoiling?
- Without stream water and shade from the trees, springhouses probably wouldn’t have worked very well. Can you find a stream that runs along the Arboretum’s Springhouse? Do you think the stream water is warm or cool? What kinds of trees surround this building?
- Did you know that people aren’t the only animals to store food? Look around! Can you think of any animals here at the Arboretum that gather and store their food, too?

While some animals hibernate or sleep the winter away, others, like chipmunks, squirrels, and mice spend summer and fall stockpiling food. Storing food prepares animals for the cold winter when food is difficult to find.

Be a nature detective and look for the kinds of food that animals gather for the winter while repeating this chant:

#### Chant:

*Chipmunks and squirrels and mice – Oh My!  
Seeds and berries and nuts, we spy.  
We’ll need a place that’s safe and dry  
to keep food this winter so we don’t die!*

### Ideal Shelters

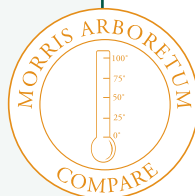
Circle all of the places that would make an ideal shelter for an animal to live during the cold winter? Can you locate any of these places in the Arboretum?



### CONSERVATION AT HOME

- Find the coolest place in your home (not including your fridge!). Why do you think this area is cooler than the rest of your house?
- Design and draw your very own springhouse! Where would you build it? What building materials would you use? What would it look like? What kinds of foods would you store in your springhouse? Will ice cream melt or stay frozen in your building?
- When animals search for a home, what do they look for?

After you finish these activities,  
**STAMP YOUR PASSPORT**



# Log Cabin

## ADVENTURE



### Recycling Houses and Housing Materials

Is your house brand new or a recycled house? If your house is new, was it built using recycled materials? It's great to use recycled wood, so you can preserve trees. It's great to recycle bricks and all kinds of metal so they don't end up in a landfill. What can you find at home that you can re-use, instead of throwing in the trash?

### Nesting Materials

Birds have been known to make nests out of found materials. Which of the following have birds used to build a nest?

**FACIAL TISSUES**

**BARBED WIRE**

**HAIRPINS**

**POCKETKNIVES**

**PIPES**

**HAIRPINS**

**PAPER CLIPS**

**PINS**

**RUBBER BANDS**

**THUMB TACKS**

**SHOELACES**

**NEEDLES**

**WIRE**

**MATCHES**

**TOOTHPICKS**

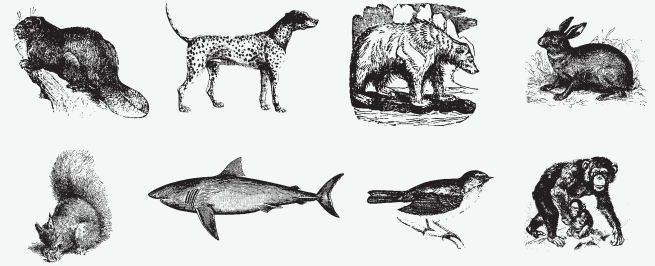
**ANIMAL HAIRS**

### CONSERVATION AT HOME

- Be on the lookout for animal houses – watch at a distance and never touch an animal in its home
- Build a home for an animal (bat box, bird house)







### Wood Homes

Log cabins are made of wood. Animals also use material from trees to make their houses. Which of following animals make homes from wood, leaves, twigs, or bark?



### Matching

Match the animal with the name of its housing:

- |  |           |
|--|-----------|
| 1.    | A. burrow |
| 2.    | B. cave   |
| 3.    | C. hive   |
| 4.   | D. nest   |
| 5.  | E. den    |
| 6.  | F. lodge  |

Nesting Materials: All of them!  
Wood Homes: Beavers, Squirrels, Rabbits  
Matching: 1f, 2d, 3e, 4c, 5a, 6b



After you finish these activities,  
**STAMP YOUR PASSPORT**

# Dawn Redwoods

## ADVENTURE



Dawn redwoods grew all over North America and Asia for millions of years, co-existing with dinosaurs part of that time. Around 2-5 million years ago they disappeared and scientists believed they were extinct. Fortunately for us, they were rediscovered, and we can see these fabulous trees around us again.

Some plants and animals become extinct because of natural changes in the environment. Others become extinct because humans do not treat the world with respect and care. With plants and animals so closely linked, sometimes we have to protect plants in order to save endangered animals.

The bobolink is one bird very dependent on a particular habitat. We need to protect its grassland breeding ground, which is becoming rare in southeastern Pennsylvania. Because it is rare, seeing a bobolink is a special treat. They are 6-8" long and the breeding male has yellow feathers on the back of his neck and striking black and white feathers on his back and wings

## Activities

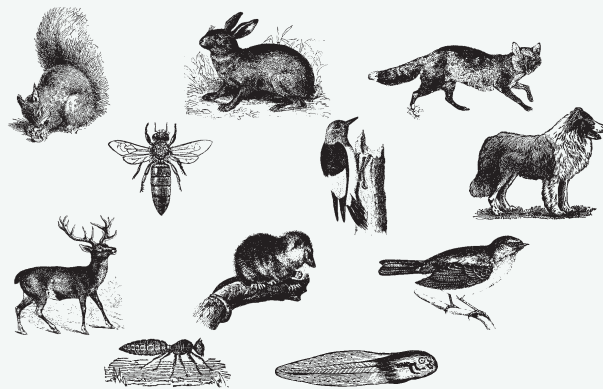
Sing this little song to the tune of "Frère Jacques:"

*Hi dawn redwoods, Hi dawn redwoods,  
We found you, We found you!  
Grasslands are receding.  
Birds need them for breeding.  
We'll save you, We'll save you!*

- Name two animals that are now extinct.
- Name two animals that are now endangered.

## Dawn Redwood Home

For animals to thrive, they need protection, food and water nearby, and a place to raise their young. Which of these animals might live in a dawn redwood?



Dawn redwoods have a color in their name to describe their bark. Bluebirds have a color in their name to describe their feathers. The flower, goldenrod, uses a color word to describe the petals.

- Name three other plants and/or animals that have color in their names.

## CONSERVATION AT HOME

Do you have evergreens and deciduous trees, trees that lose their leaves in winter, growing near your house or school? What animals might live in them?

After you finish these activities,  
**STAMP YOUR PASSPORT**



Dawn Redwood Home: All except  
tadpole, deer and collie.