

TEXAS PARKS AND WILDLIFE

Come Paw Through
our Pages



CEDAR HILL STATE PARK
ACTIVITY GUIDE

Welcome

to Cedar Hill State Park and Penn Farm.

Today you'll have the chance to learn about some local history and natural sciences. There are many things to see, learn and do at the Park. We hope you enjoy your time here.

The Penn Farm Tour and other programs offered at Cedar Hill State Park will open the door for enjoying the rich history in this area and nurture an appreciation for the environment. The games and information in this guide book are meant to enhance your experience.

Other Programs Offered:

Penn Farm Tour

Pond Walk

Talala Trail Hike

Fuzzy and Furry Friends

Our Scaly Skinned Friends

Get To Know the Trees

Birding Basics

Kid's Wilderness Survival



About the cover: This is a picture of a bobcat. It is rare to see a bobcat, but it isn't impossible. Keep your eyes open and you may catch a glimpse of some of the animals that live at Cedar Hill State Park.



Cedar Hill State Park Pledge

I will:

- Treat all wildlife with kindness and respect.
- Bring home only pictures and memories.
- Do my best to have a safe and fun time.
- Stay on the trail.
- Leave no trace, by packing trash out and throwing it in the dumpster.
- Recycle when possible.
- Be quiet and polite to others.
- Leave my area cleaner than I found it.
- Swim only in posted areas and with an adult.

Signature of Park Protector
Witness to the Park Protector Pledge:

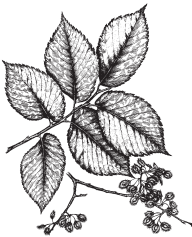
Signature of Parent or Participating Adult

Get to know the trees

The Mountain Cedar is also known as Ash Juniper. Cedar Hill State Park got its name from the abundance of this shrub-like tree. It has bark that peels in strips. The leaves are short and scale-like. Settlers used to brew the leaves to make a tea that has a high concentration of vitamin C. Most people that are allergic to this tree are allergic to the male tree that produces the tiny cones, which release pollen. The female tree produces small blue berries.



The Cedar Elm is sometimes called the “winged elm” due to new twig growth often producing small wing-like scales. The elm’s branches are very dense and grow slightly downward. The leaves feel rough, like fine sandpaper when rubbed. The cedar elm can grow up to 80 feet tall.



The Post Oak got its name from farmers and ranchers, who used its wood to make fence posts. It can grow to 70 feet tall. The Post oak’s leaves are leathery and deeply lobed. This tree produces acorns, which many animals eat. Most of the ones you see at the Park are 100 to 400 years old.



The Mesquite, also known as the Honey Mesquite, has become one of the most common trees in Texas. The seeds are a bean-pod type fruit, that are eaten by coyotes and some other wildlife. The Indians used this tree to make black dye and a cement for mending pottery. The thorns on its branches were used like safety pins in the Civil War.



The Honey Locust can grow over 50 feet tall, with smooth bark. Thorns can grow out of the trunk and branches. A bird called the Northern Shrike will stick its prey onto the thorns and settlers used the thorns as sewing needles. Bobcats have been known to eat the seed pods of the tree.



Leaf Illustrations

Shapes



Linear



Elliptic



Ovate

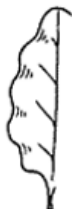


Spatulate

Margins



Simple



Undulate



Serrated



Lobed

Types



Simple



Palmate



Compound

Arrangements



Alternate



Opposite

Activi-Tree

Have you ever made a leaf rubbing? All you need is a crayon, some paper, a leaf and a hard surface. Use the space below to make a leaf rubbing. Place the paper on the leaf, then rub it with the side of your crayon. Try different leaves, or coins, or even old gravestones. **Remember**, leave whatever you find where you found it!

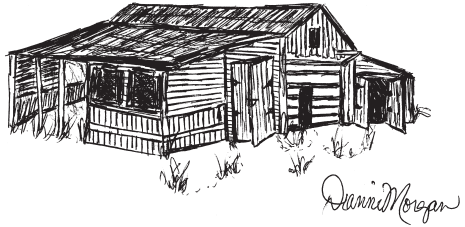
Fun facts about trees!

- Moss and lichens usually grow on the north side of a tree.
- Baseball bats are often made of ash wood, because of its flexibility. These trees grow straight most of the time.
- A gall is a tree's reaction to an insect laying an egg on it. The outside is actually part of the tree and in the middle is the developing egg or larva.
- The Soapberry tree has berries, and the liquid from the berry was used to make soap.

Penn Farm History Lesson

The park has more to offer than just the study of natural history. It also can give a glimpse of the past and the family who lived on the farm.

Around 1850, John Anderson Penn went to California and found gold. In 1854, John Penn and his family moved from Illinois and settled in Texas. Like many farmers, they grew wheat, corn, oats and barley. John also managed herds of horses, sheep and cattle with his sons. In the late 1850s, son John Wesley Penn became sole owner of 1,100 acres, known as Penn Farm.



In 1859, John Wesley Penn married Lucinda Moore and they built a frame house. A tool called an adz was used to shape the logs of this barn and the jack barn. Most of their money was made by raising and selling cattle. During the Civil War, John and two of his brothers joined the Confederate Army where his brother William died. Their father, John A., returned to Illinois.

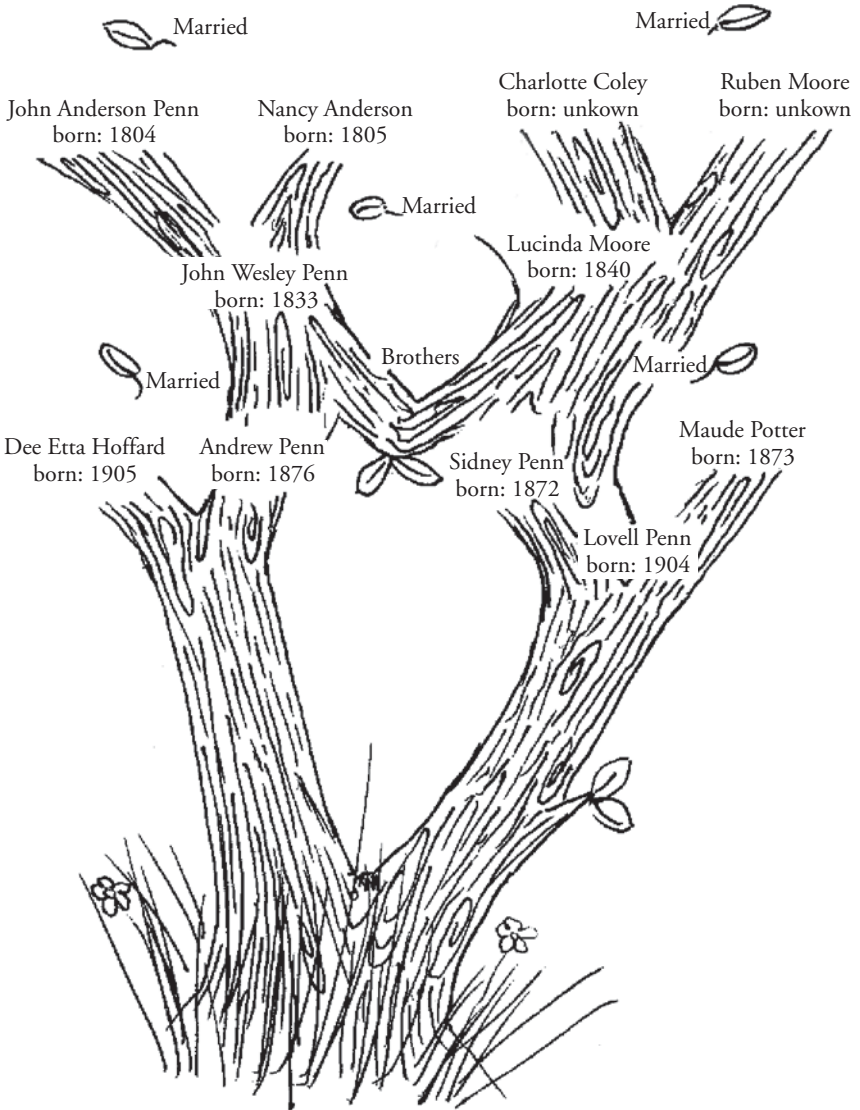
By 1876, John W. and Lucinda had five children. They built a new house as the family continued to grow. The children would have gone to school from kindergarten to eighth grade. They would have had school all year round, with breaks for harvesting and planting. The farm was very prosperous, but even when they bought a new piece of farm equipment they would keep the old one for parts.

In 1888, John Wesley Penn died from a rattlesnake bite. Lucinda and her nine children continued to farm the land. Son Andrew "Andy" Penn managed the main farm operation; and another son, Sidney J. Penn, and his family farmed the lower acreage. Although Andy didn't farm on a large scale for himself, he rented the land to several families to farm. The Hoffards were one of those families who lived at the Penn Farm.

Andy married Dee Etta Hoffard in 1927. The farm had some setbacks due to the Great Depression and World War II. Andy, now 65 years old, was reducing the number of his cattle and was cultivating less land. He died in 1964, and soon after Dee Etta began selling some of the land that comprised Penn Farm. She continued to live on the farm until 1970. Five years later the land and the buildings were sold to the U.S. Army Corps of Engineers. Texas Parks and Wildlife Department received the land in 1990 and the park opened in 1991.

Penn Family Tree

Like nature's trees, a family tree has branches and is unique. We can learn about our history and our culture by studying our family's past and how our ancestors branch out all over this great nation. In some cases, you may find family members came from other countries to establish new roots in America.



Cedar Hill State Park

Family Tree

Write your name on the line.

Fill in the blanks with the names of your relatives to see how your family tree grew. If you need it, ask your parents to help.

Great Grandmother's Name
Birthdate: _____

Great Grandmother's Name
Birthdate: _____

Great Grandfather's Name
Birthdate: _____

Great Grandfather's Name
Birthdate: _____

Great Grandmother's Name
Birthdate: _____

Great Grandmother's Name
Birthdate: _____

Great Grandfather's Name
Birthdate: _____

Great Grandfather's Name
Birthdate: _____

Grandmother's
Name
Birthdate: _____

Grandfather's
Name
Birthdate: _____

Grandmother's
Name
Birthdate: _____

Grandfather's
Name
Birthdate: _____

Mom's Name
Birthdate: _____

Dad's Name
Birthdate: _____

Your Name
Birthdate: _____



*For more information about family trees or to get help researching your family's history visit this web site.

www.geneology.com

Aerial View of Penn Farm

Now that you have taken a look at the past, let's check out where you are now!

You're at Cedar Hill State Park, Located in Cedar Hill, Texas, of course, and here's a bird's eye view of Penn Farm!



This satellite picture is from North Central Texas Council of Governments and here's the web site.

<http://www.dfwmaps.com>

*Get you parent's permission and check out your own house or apartment from an aerial view.

"Isn't that Amazing!"

Penn Farm Maze

Original Barn

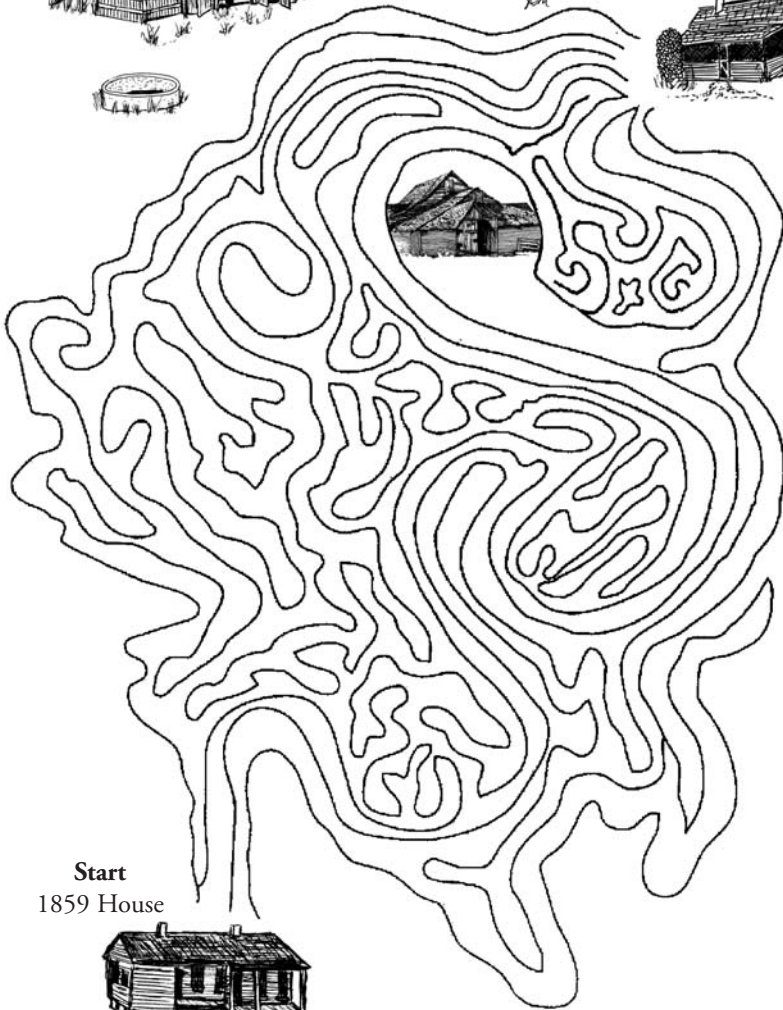


Windmill and
Pump House



Finish

1876 House



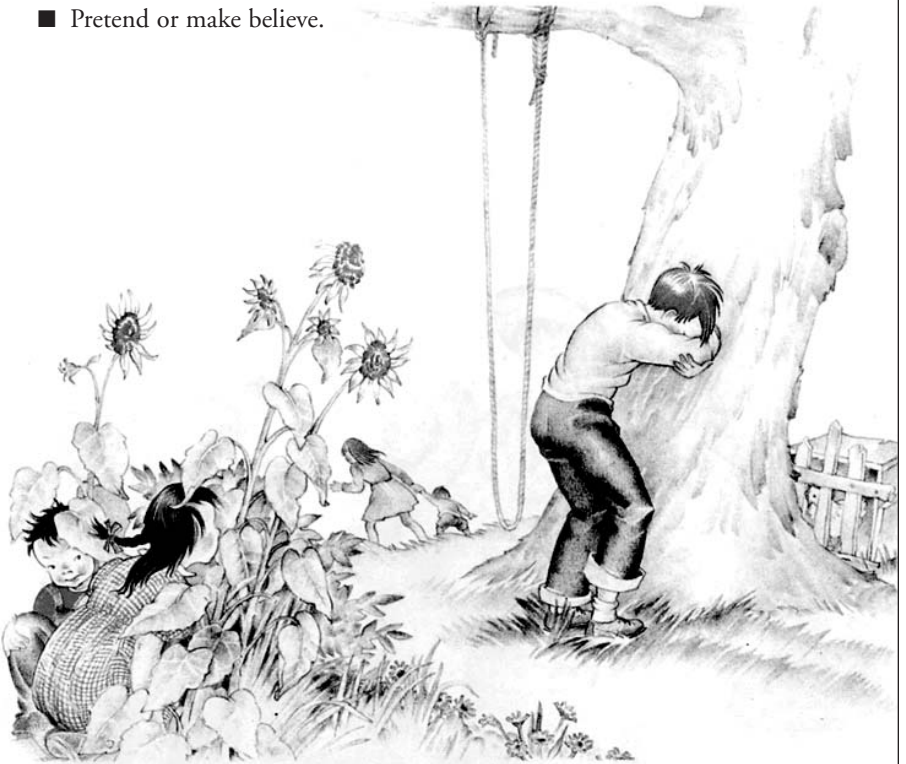
Start
1859 House



What did the Penn children do for fun?

A long time ago, children didn't have a lot of free time. They also didn't have Television, radio or Gameboys. They had to make up their own fun. Here are some things the Penn children may have done for fun.

- Race a sibling to get chores done.
- Play with homemade toys or dolls.
- Whittle (carving a stick with a knife).
- Skipping rocks (Have your parents show you how.)
- Swing from a homemade swing.
- Drawing/writing.
- Hide and seek.
- Pretend or make believe.





What could you do for fun
without using electricity?

Challenge!

Get with a sibling and see who can come up with the most fun things to do!



A Few Words About Birds!

Greater Roadrunner is a member of the cuckoo family and can fly, but usually chooses not to. They have a shaggy crest on their head that can be raised or lowered.



Great Blue Heron is a stork-like bird and is actually grey with black accents on its crown and portions of its wing. They wade in shallow water in search for food, but have been seen in low-land fields stalking mice or gophers. They can get 4-5 feet tall, with a wing span of about 5-6 feet.



Red-winged Blackbird, as the name suggests, is a blackbird with red shoulder patches. The patches have a yellow border that is sometimes hard to see. A noisy bird, its song sounds like “aawnk-ah-rreee.”



Northern Cardinal is vivid red with a tufted crest on its head. Cardinals mate for life and the male can often be seen feeding his mate. The cardinal's call sounds like, “what-cheer,” or “teew teew teew.”



A Few Words About Birds!

Eastern Bluebirds have a beautiful blue color on their head and back, with a cinnamon red splash on their chest fading to a paler shade on their stomach. Thanks to the bluebird houses, they are not as rare as they used to be. The brown-headed cowbird will lay an egg in the blue bird nest and the mother blue bird will raise it as their own, often causing her own babies to die.



The **Northern Shrike** has been said to be the hawk of the songbirds, selecting the highest perches to see prey. They are grey, black and white with a black mask around their eyes. They will catch their prey and stick it on thorns or barbwire.



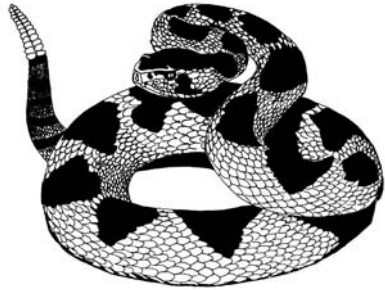
Painted Buntings are very shy and like the thick woods. This bird has a remarkable blue head, reddish chest and green back and wings. That's why it's called painted. These birds are becoming more rare as they are captured in Central America and sold as caged birds. It also doesn't help that the cowbird will lay its eggs in the bunting's nest as well. The Painted Bunting's song sounds like, "graffiti graffiti spaghetti for two."



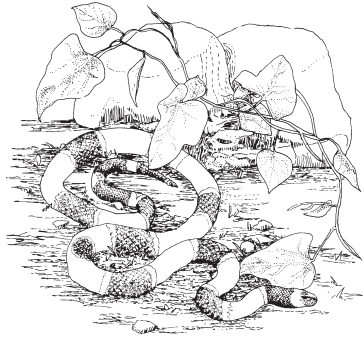
There are venomous snakes at Cedar Hill State Park. Venomous means that these snakes which is toxic. Venom can be neurotoxic (new-ro-tox-ic) or hemotoxic (he-mo-tox-ic). N sue. If you see these snakes, back away from them quickly.

Venomous

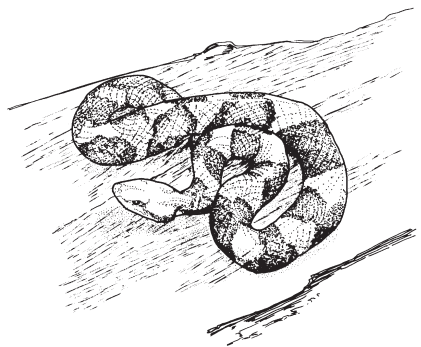
The **Diamondback Rattlesnake** has a rattle made up of loosely interlocking segments that they shake when alarmed. This is meant as a warning. New segments of rattle are added when the snake sheds, but old segments can also break off. They have diamond pattern markings which act as camouflage.



The **Coral Snake** has red, yellow, and black stripes. Its venom is one of the most deadly and is a neurotoxin, affecting the nervous and respiratory systems. They are shy and will avoid human contact. They look similar to the King or Milk snake. Remember “Red on yellow, will kill a fellow. Red on black, friend of Jack.”



The **Copperhead** is tan with darker brown markings that sometimes looks like an hourglass or thick irregular stripes. This snake moves slowly, so it hides itself until its prey approaches. The Copperhead's fangs are short and their bites are seldom fatal. The female does not lay eggs, but has live young.

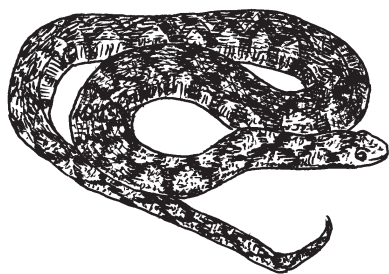


NIP-ITS!

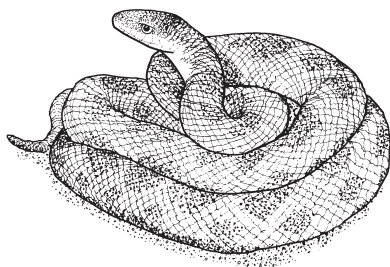
have hollow fangs that are attached to a gland, behind the eye that produces venom, Neurotoxic venom affects your nervous system and Hemotoxic affects your muscle tis-

Non-Venomous

The **Diamondback Water Snake** is a good snake with a terrible name. It gets mistaken for a cottonmouth because it spends a lot of time in the water. People think it's venomous because of the diamond markings, but it is NOT! It eats frogs, rats and other small animals that live around water areas.



The **Great Plains Rat Snake** eats rats, as the name suggests, but it will also feed on all sorts of other small animals. It can be found in a variety of areas, not just the desert plains. The female snake will lay three to 21 eggs, depending on its age.



Be snake smart!

When exploring you can be snake smart by:

- Looking on the other side of logs before you step over them.
- Lift rocks or logs towards you to act as a shield if a snake is under it.
- Check for snakes before you reach onto rocky ledges or between rocks.

Mammals

When you are at the park, consider that you are in a wildlife habitat. Just like your home is your habitat, the park is home to many wild animals. A habitat is also a place where an animal finds and eats food.

The **Coyote** is a member of the dog family and they generally travel in packs. They are omnivores, meaning they will eat meat and vegetation. When it gets too hot to chase prey, the coyote will seek out plants to eat. Coyotes are highly adaptive and are found all over Texas. A coyote will weigh between 20-50 pounds.

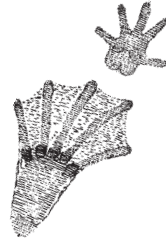


The **Bobcat** is a member of the cat family, hunts at night, travels alone and is seldom seen. They are very adaptive and can be found all over Texas. The bobcat is a carnivore, but will eat plant material if meat is not available. Like cats, the bobcat may partially cover its scat. A bobcat will generally weigh between 15-35 pounds.



Mammals

Beavers have a flat tail for slapping the water as a warning when danger is near. Their teeth never stop growing until they die. This is why they have to chew, to wear down their teeth. They will build both a den and a dam, living in the den. They have webbed feet to help them swim and they are herbivores (eats only plants). Beavers can get as big as 75 pounds.



Raccoons are best known for their mask, ringed tail and their ability to get into just about anything. This is only matched by their curious nature. Their paws resemble human hands and they will eat just about anything. Make no mistake, even though a raccoon appears tame, it is a wild animal and can hurt you. The raccoon can weigh up to 35 pounds.

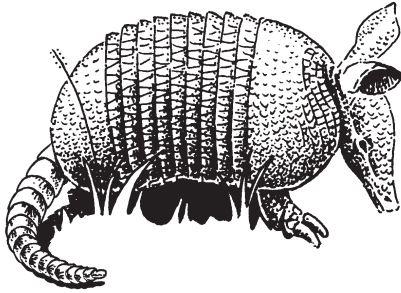


The **Opposum** is a shy, nocturnal marsupial, coming out at night. Being a marsupial, it has a belly pouch to carry its young, until they get too big. They are omnivores and will play dead when frightened. The term “playing opossum” came from this curious behavior. A opossum will usually weigh 9-13 pounds.



Mammals

The **Nine-banded Armadillo** has a thick hide or armor for protection. When an armadillo gets frightened it may kick quite hard and run away or may curl into a ball to protect its underside. The armadillo roots around like a pig in search for food and can weigh up to 17 pounds when full grown.



The **Striped Skunk** has a stinky reputation for a good reason. The scent gland of the skunk is a defense mechanism as well as a means for marking its territory. A skunk is a very shy animal and it would be unusual to see one. The skunk has a white stripe down its back and will weigh 6-14 pounds as an adult.

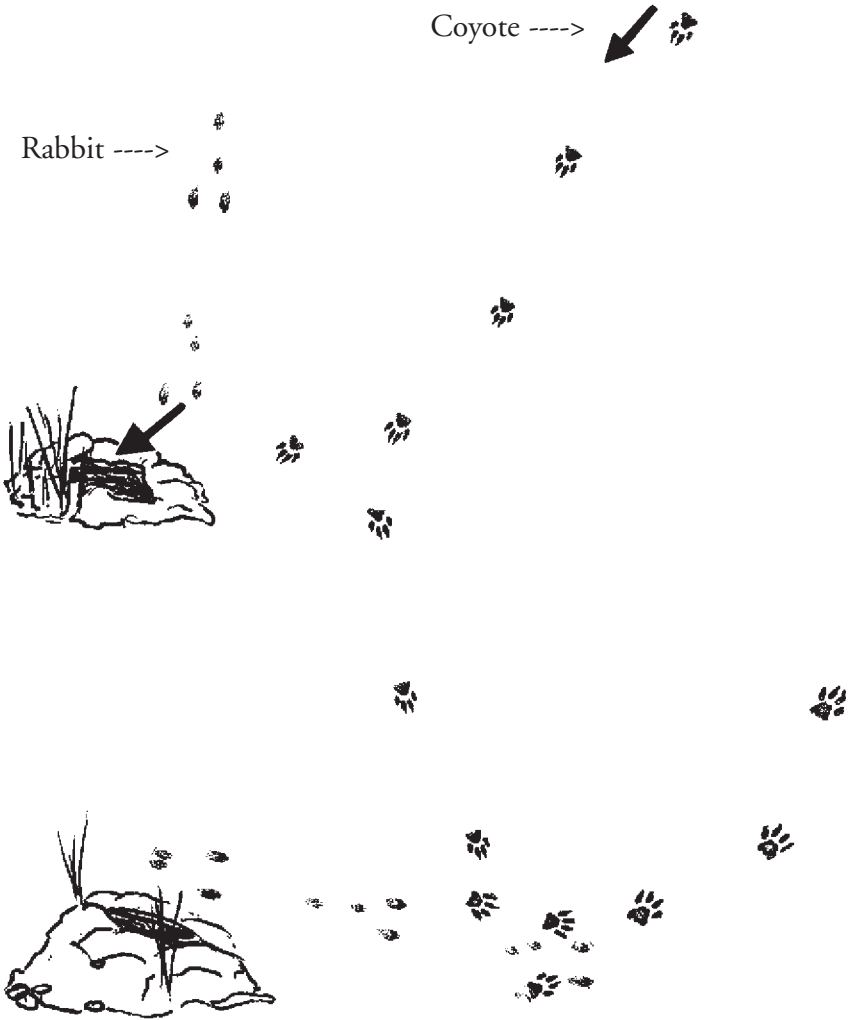


Get Tracking!

Tracks are impressions left by an animal's pawprints or a human's footprints on the ground. If you get a chance to walk one of the trails at the park, keep your eyes open for tracks. Shown next to each mammal is a front (on top) and a back (on bottom) paw print.

Figure Out What Happened

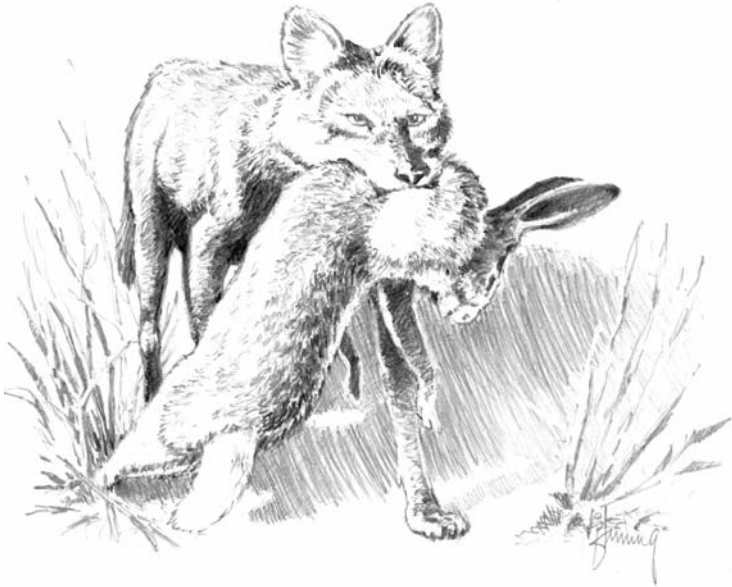
Can you look at the animal tracks and describe what happened?



Clue: Take a good look at all the rabbit tracks.

What's the Scoop in Poop?

Scat is a nice word for poop. You may ask “Why study scat?” Well, if you are tracking an animal, it would help you to know what animals are in the area. You could find clues by studying the scat left by animals. Scat may contain fur, bones, seeds, vegetation or insect parts. Certain animal's diets change from season to season.



Bobcats will eat the meat off the bones of their prey, while a coyote will eat bone and all.

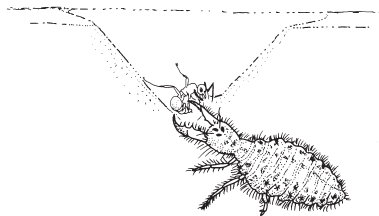
Some animals are omnivores. This means they eat both plants and meat.

Some animals are carnivores and they eat meat, while other animals are herbivores and they eat only plants.

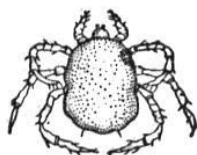
*A person who studies scat for a living is called a **Scatologist**.

What's Bugging You?

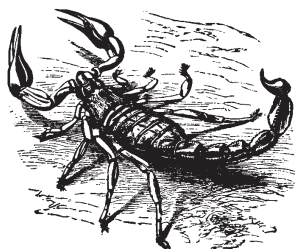
Ant lion – You have probably seen the habitat for the larva of this insect. They will dig a funnel shape pit in the dust or fine dirt and wait at the bottom for ants to fall in. As a larva they have huge mouth parts to crush an ant. The adult looks more like a dragon fly.



Chigger – Related to ticks and spiders, chiggers are the larvae stage of the harvest mite. By the time you feel their bites, they have already jumped off. They like warm dark places, so you won't normally get them on exposed skin. To see if a grassy area is infested with chiggers put out some black paper and the chiggers will jump on it if they are there.



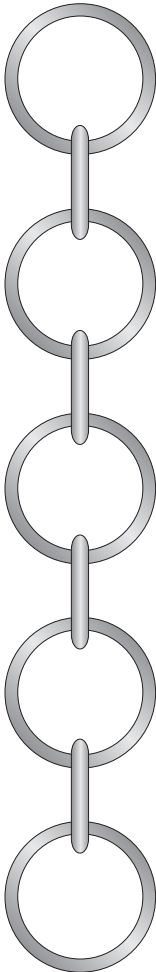
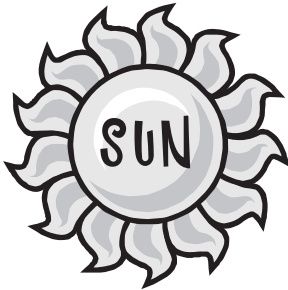
Scorpion – A member of the spider family called arachnids, scorpions can sting you with their "telson" or stinger. A Texas scorpion's sting isn't life threatening, but hurts a lot. Their preferred habitat is dark, warm and dry. They usually eat small insects. Scorpions will molt (shed skin) 4-5 times, until they become mature.



Tarantula – The tarantula is also a member of the arachnid family. All are hairy and when threatened will flick hairs off their abdomen with their hind legs as a defense mechanism for escape. They are not poisonous as many believe. The bite of nearly all tarantulas is about as harmful as a bee sting.



Food Chain



Every food chain starts with the sun and is the transfer of food energy from one organism to another. It is made up of producers, consumers and decomposers. Use the answer bank to create a food chain.

Example:

SUN
↓
berry bush
↓
mice
↓
hawk

Your chain may not use all five links, but it might.

Answer Bank

man
frogs
coyote
trees
lizards
owls
grass
insects
snakes
raccoon
armadillo
bobcat

**We all need each other to survive.
Protect wildlife and don't break the chain!**

The Melancholy Life of a Dead Tree

One of the best places to look for wildlife is in and around a dead tree. A standing dead tree is known as a **snag**. Some predatory animals and birds will use a snag as a perch to hunt for prey, because it has no leaves. Bluebirds, owls, bats, squirrels, raccoons and wood frogs will live in the cavities abandoned by other animals or which result from a lightning strike. Woodpeckers will make their own hole in a snag.

A fallen tree may support more life than a living one. It is the link between past and future forests. As a dead tree decomposes, it puts nutrients back into the soil. The recycling of nutrients continues the process of a complex food chain. Bacteria, fungus and wood-boring insects feed off of the decaying wood. They in turn become food for small rodents, which become food for larger animals.

To learn more about trees, energy and the environment
Visit Billy B at,
www.billybproductions.com



What is an ecological footprint?

Definition: An ecological footprint is the amount of land required to grow and produce the items you use and consume in your daily life. Answer the questions below to find out how much of an impact you have on the planet.

1. How many miles do your parents drive you in a week?

- A. 0 - 10 miles.
- B. 11 - 25 miles.
- C. 26 - 35 miles.
- D. 36 or more miles.

2. Do you produce any of your own food?

- A. Yes, we produce all of our food.
- B. Yes, we produce 50% of our food.
- C. Yes, we produce 25% of our food.
- D. No.

3. Do you buy consumable products that are made locally?

- A. As often as possible.
- B. I don't know.
- C. I haven't really paid that much attention.
- D. No.

4. Do you recycle?

- A. Yes, everything we can.
- B. We recycle about 50% of our trash.
- C. We recycle about 25% of our trash.
- D. We don't recycle.

5. Where do you live?

- A. In an apartment.
- B. In a brick home.
- C. In a wood home.
- D. In a mobile or manufactured home.

Most kids in America will have an ecological footprint of about 4.6. This means if everyone lived the same way, we would need 4.6 earths to survive. Check out www.myfootprint.org and find out what your ecological footprint is.

Here are some web sites you can go to to find out how to make your footprint smaller, by recycling, reusing and reducing.

<http://basecampaearth.org>
www.kidssavingtheplanet.org
www.earthday.org

Park Trivia Crossword

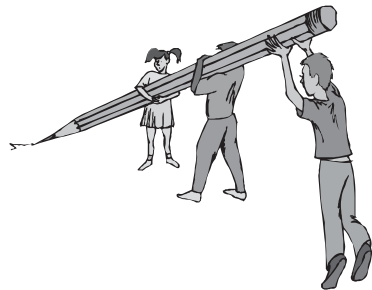
All of the answers can be found in this guide. Some may be tricky, but if you read carefully you can do it!

Across

2. John Wesley Penn's wife.
5. A place where an animal lives and eats.
7. Impressions left on a trail by animals are called _____.
8. This mammal has been known to eat the seed-pods of the Mesquite Tree.
9. This mammal's teeth never stop growing while it is alive.
10. _____ Penn married Dee Etta Hoffard in 1927.
16. The park is in what city?
18. The Ash Juniper is another name for _____ Cedar.
19. The children who attended the school, now located in the main barn, would only have finished _____ grade.
21. A standing dead tree where an animal may live or store food.
23. The name of the family who used to own the farm.

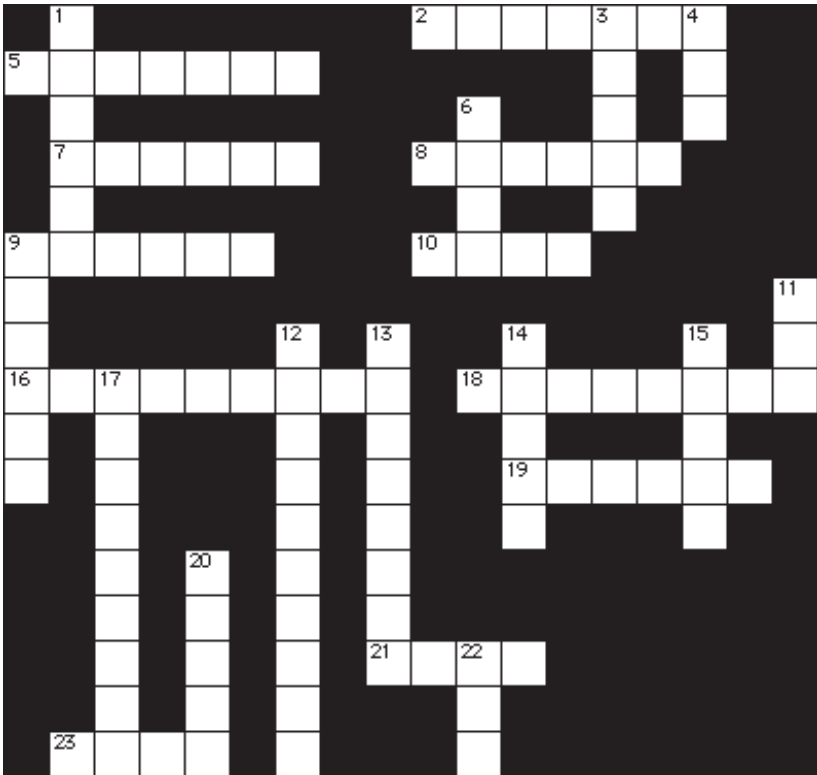
Down

1. What snake bit John Wesley Penn in 1888? _____ snake
3. Moss and lichens usually grow on the _____ side of trees.
4. The tool used to shape logs in the original barn and jack barn.
6. Who built the first house at Penn farm?
9. This mammal is part of the cat family and is found at the park.
11. Every food chain starts with the _____.
12. Kid's _____ Survival is a program at Cedar Hill State Park.



Cedar Hill State Park

13. John A. Penn left _____ to come to Texas in 1854.
14. The leaves of the Post Oak are _____.
15. Many farmers kept old equipment when they bought new ones, to use them for _____.
17. Something is said to _____ when it dies and puts nutrients back into the soil.
20. This tree is the state tree of Texas.
22. This tree usually grows straight and is flexible. It is often used to make baseball bats.



Outdoor Learning

Select an area to practice your skills of observations. Mark off the area boundary with string or set limits within an open space or cluster of trees. Observe what ever objects you would like. Fill in the graph below to keep track of your work. List your items on the lines provided and count how many of each kind are in your marked area.



List your items:

You could do this in any open area, not just at the park. You can even make observations over a period of time.



Tree Trivia

Use what you have learned to match the tree to the its leaf information. Draw a line from the tree name to the correct clue.

Tree Name

1. Mountain Cedar
2. Cedar Elm
3. Post Oak
4. Mesquite
5. Honey Locust

Clue

- a. lobed
- b. elliptic
- c. linear
- d. ovate
- e. scalelike

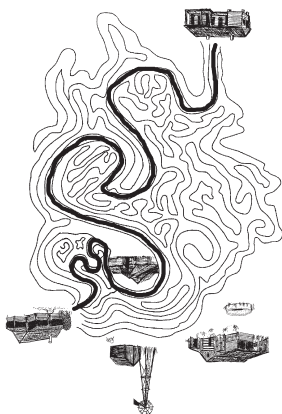
How Long Will Litter Last?



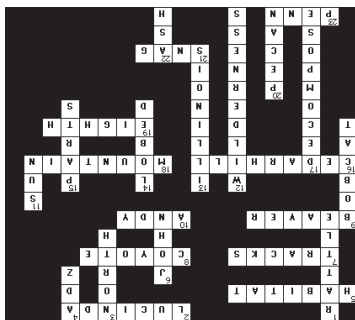
Cigarette butts	1–5 years
Aluminum cans	500 years
Glass bottles	1,000 years
Plastic Bags	10–20 years
Plastic coated paper	5 years
Plastic film containers	20–30 years
Nylon fabric	30–40 years
Leather	up to 50 years
Wool socks	1–5 years
Orange and banana peel	up to 2 years
Tin cans	50 years
Plastic six-pack rings	100 years
Plastic bottle and Styrofoam	indefinitely

So Please Don't Litter!

Answers to Games and Quiz



Tree Thivia
Lines should be drawn to these coordinates:
1. e, 2. d, 3. a, 4. c, 5. b



Created by:
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TPWD 2004 intern for Cedar Hill State Park

Resources from:
Texas Parks and Wildlife Department
The Nature Conservancy

Recommended Books:
Animal Tracks of Texas
Texas Monthly: A Field Guide to Wildflowers, Trees and Shrubs of Texas
Learn About ... Texas Birds
Learn About ... Texas Insects

For more information call:
(972) 291-3900

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