



November/December 2019

# Xplor

## HOWL'S IT GOING?

THESE CLEVER CANINES  
ARE DOING GREAT IN  
THE SHOW-ME STATE



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*Brrrrr-d.* When prey runs scarce on the Arctic tundra, snowy owls may swoop south into Missouri to find food.

 by Noppadol Paothong





# Xplor

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*Xplor* (ISSN 2151-8351) is published bimonthly. It is a publication of the Missouri Department of Conservation, 2901 West Truman Boulevard, Jefferson City, MO (Mailing address: PO Box 180, Jefferson City, MO 65102.) Subscription free to Missouri residents (one per household); out of state \$5 per year; out of country \$8 per year. Please allow 6-8 weeks for first issue. Notification of address change must include both old and new address (send mailing label with the subscriber number on it) with 60-day notice. Preferred periodical postage paid at Jefferson City, Missouri, and at additional entry offices. **Postmaster:** Send correspondence to *Xplor Circulation*, PO Box 180, Jefferson City, MO 65102-0180. Phone: 573-751-4115, ext. 3856 or 3249.

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Send editorial comments to: **Mailing address:** *Xplor Magazine*, PO Box 180, Jefferson City, MO 65102-0180; **Email:** [Xplor@mdc.mo.gov](mailto:Xplor@mdc.mo.gov). **Please note:** *Xplor* does not accept unsolicited article queries, manuscripts, photographs, or artwork. Any unsolicited material sent will not be returned.

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**We recycle.**  
**You can, too! Share**  
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## ON THE COVER

Coyote

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# GET OUT!

FUN THINGS TO DO  
AND GREAT PLACES  
TO DISCOVER NATURE



## LOOK FOR ICE SCULPTURES

along a frozen stream.



## WATCH BALD EAGLES

in northern Missouri  
in early December.  
Lakes and big rivers  
are the best places  
to spot them.



## LISTEN FOR THE YEAR'S LAST CRICKET CALLS.

Joseph Berger,  
Bugwood.org



## LET'S TALK TURKEY

at Powder Valley  
Conservation Nature  
Center on Friday,  
November 15, from  
9:30–11 a.m. Dress  
for the weather. After  
learning about Missouri's  
wild turkeys, you'll make  
a simple turkey call,  
craft a 3-D turkey model,  
and go outside to look for  
feathers and other turkey signs.  
Registration opens November 1  
at [short.mdc.mo.gov/ZMk](http://short.mdc.mo.gov/ZMk).



## HUNT FOR OYSTER MUSHROOMS

in the woods  
during damp weather. They're  
delicious, but never taste a  
wild mushroom unless you  
know it's safe to eat.

# WHAT IS IT?

**DON'T KNOW?**  
Jump to Page 20 to find out.



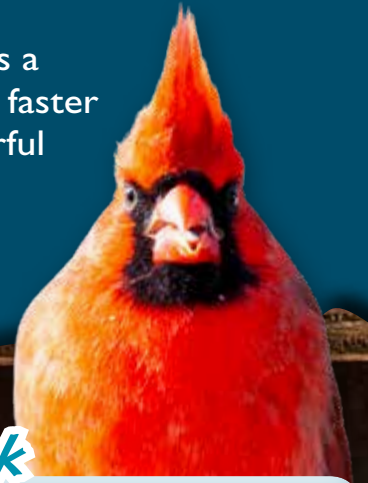
- ❶ I may look like a moss, but don't be fooled.
- ❷ I'm made of two things that work as one.

- ❸ A North Pole critter will browse me for food.
- ❹ And Missouri munchers will eat me, too.

# Into the WILD

## backyard bird feeder

Nothing brightens a gray winter day faster than a flock of colorful birds at a feeder.



### LOOK

Northern cardinals are wary birds. If you see one flicking its tail or whistling sharp *chip* calls, it's probably worried about something. Perhaps the neighbor's cat is prowling around?

### Try This

Chickadees are bold, curious birds. With lots of patience and a steady hand, you can coax a chickadee to eat seeds from your palm.



Black-capped chickadee



Female northern cardinal



### LOOK

Even though they're small, **white-breasted nuthatches** are feisty! When one lands at a feeder, it often swings its long, sharp beak like a sword to drive away other birds.

### What Happened Here?

Sharp-shinned and **Cooper's hawks** sometimes swoop down to pluck songbirds from feeders. This pile of feathers is all that's left from a hawk's supper. It's OK to feel sorry for the songbird. Just remember that hawks need to eat, too.



## LOOK

A tufted titmouse will often flit down, grab a seed, and dash away. At a safe perch, the big-eyed bird will hold the seed with its feet and use its beak to hammer open the seed's shell.



## Did You Know?

If an **American crow** visits your feeder, it may leave a "gift" for you. Crows have been known to replace the seeds they take with bottle caps, shiny wrappers, buttons, and other small bits of trash they have collected.



## LOOK

You can guess a **blue jay's** mood by looking at the crest of feathers on top of its head. A happy jay keeps its crest down. An angry or worried jay raises its crest high.



American goldfinch

House finch



## Take a Closer Look


The boss bird in a flock of dark-eyed juncos feeds in the center where it's safest. You may see juncos lunge at each other and flick open their tails. This is how they figure out who is in charge.



## Listen

At night, you might hear a high-pitched tseet or musical chirping at your feeder. Most songbirds don't eat after dark, so the chatter is probably from a **flying squirrel** that has glided down from the treetops to swipe some seeds.





# Into the Water With a HELLBENDER RESEARCHER

by Bonnie Chasteen

**H**ellbenders are big, wrinkly, water-dwelling salamanders. They're also known as snot otters, devil dogs, and grampus. Why such bad names? "Well, they ARE very slimy, and some people used to think that catching one brought bad luck," said Jeff Briggler, who studies hellbenders for the Missouri Department of Conservation. This fall, *Xplor* jumped in with Jeff to check on some hellbenders in an Ozark stream.

Bonnie Chasteen



**Xplor:** Why do you check on hellbenders in the fall?

**Jeff:** That's when the boys start making nests and the girls start filling up with eggs. It's a good time to see how they're doing.

**Xplor:** The boys build nests?

**Jeff:** Yep, they'll dig out a nice, safe hollow under a big rock where a girl hellbender will enter and lay her eggs — usually two strands of 100 to 350.

**Xplor:** What happens after that?

**Jeff:** The girl leaves, and the boy stays to guard the eggs. They hatch in four to six weeks, and then he guards the hatchlings until they leave the nest, usually in late winter or early spring.

**Xplor:** Wow — so it's dad who guards the nest and babies!

**Jeff:** Yep, and dad can be very protective. If I try to reach into a nest with eggs, he might bite me.

**Xplor:** Does it hurt?

**Jeff:** Yes! Hellbenders eat mostly crayfish, so they need lots of teeth to crunch through those stiff shells. They have two rows of teeth on top, and one row on the bottom.





## Eastern hellbender

**Xplor:** Do you get bitten a lot?

**Jeff:** Nope, not very often. I always handle the hellbenders very gently, and they seem to know I don't mean them any harm.

**Xplor:** Why do you study hellbenders?

**Jeff:** Well, it IS a lot of fun. I get to use cool gear and spend the day in the water. Also, it's fun to hold the hellbenders while I'm measuring them and swabbing them for diseases. But mainly, hellbenders are in trouble.

**Xplor:** What kind of trouble?

**Jeff:** Mostly habitat trouble. When people dig or build in Ozark rivers, it makes the water silty. When sediment settles on top of hellbender eggs, it can kill them. It's my job to keep an eye on the hellbenders we study, and sometimes I DO take a few eggs for our restoration program.

## FUN FACTS

- » Missouri is the only state that is home to both the eastern and the Ozark hellbender.
- » At around 24 inches long, the eastern hellbender is the largest salamander in North America.
- » Hellbender skin is sensitive to light, which helps the hellbender keep all its body parts safely hidden under rocks.
- » Hellbenders have big heads and mouths, but their eyes are tiny.

**Xplor:** Restoration program?

**Jeff:** Yes! We have two different kinds of hellbenders in our state — the Ozark and the eastern hellbender — and both are slipping away from us, so to speak. The Missouri Department of Conservation, the St. Louis Zoo, and lots of other folks are working together to help raise hellbenders from eggs in indoor places. After the eggs hatch and the larvae grow into young adults, we tag them and release them into the streams where their eggs came from.





## Ozark hellbender

**Xplor:** Sounds pretty cool! Is it working?

**Jeff:** We've tagged and released a little over 8,000 youngsters, and we know some of them are surviving. I will be really excited the day I find a captive-raised dad defending a nest of eggs in the wild.

**Xplor:** How do you know which hellbenders were raised inside and which are wild?

**Jeff:** We've tagged every hellbender we've found and every hellbender we've released from the zoo or the hatchery with a digital number that we can scan when we recapture them. It's a pretty slick system!

**Xplor:** Can *Xplor* readers see hellbenders in the wild?

**Jeff:** I'd rather they didn't try to. Moving rocks in Ozark streams can destroy nests or even kill the hellbenders themselves. The best place to see hellbenders is at the St. Louis Zoo in their herpetarium. That's a fancy word for where amphibians and reptiles are kept.

Visit the St. Louis Zoo's hellbender page at [short.mdc.mo.gov/ZQY](http://short.mdc.mo.gov/ZQY).

**Xplor:** What are some things *Xplor* readers can do to help Show-Me snout otters survive and thrive?

**Jeff:** Probably the best thing is to learn more about them. These supercool critters can breathe through their skin and live up to 35 years. Even if we don't often see them, it's fun knowing that these big, slimy, wrinkly, crayfish-crunching giants are living and nesting under the rocks in our beautiful Ozark streams. The other thing, of course, is to avoid disturbing rocks in Ozark streams.

**Xplor:** One last question: Why are snout otters so slimy?

**Jeff:** They're only super slimy when they're feeling super threatened, like when a mink or an otter is trying to eat them. Then they ooze a yucky slime that most predators, including a few people I know, find absolutely disgusting!

**Xplor:** Eew! That's both gross and amazing! Thanks, Jeff!



See ya later!



© Mikael Males | Dreamstime.com

# Wilky Coyotes



Missouri's largest and most common wild dog is yappy, snappy, quick, and crafty. by Matt Seek

The chorus starts just after sundown. As the moon rises and night creeps in, a lonely howl wavers through the gloom. And when one coyote (*kie-ob-tee* or *kie-obt*) starts raising a ruckus, nearby coyotes usually join in.

Although it sounds spooky, there's nothing to fear. Howling is how coyotes talk to each other. A coyote might howl to say, "I'm lonely," "Stay away," or "Let's find some rabbits to eat."

They have quite a vocabulary, too. In addition to howling, coyotes bark, yip, yelp, whimper, and growl. And the racket they make can be heard more than 3 miles away on a clear, calm night.



© Matt Knoth | Shutterstock.com

## Country Dog, City Dog

Before the United States became a country, coyotes lived only on the plains and prairies of the Wild West. But in the 1800s, people started moving out of bustling eastern cities and into the less-crowded countryside. As settlers carved habitat into farms and ranches, they got rid of wolves and mountain lions. When the big predators moved out, crafty coyotes crept in.

Today, coyotes howl from coast to coast across America, north into Canada, and south into Central America. They hunt for food and raise their families in forests, farmland, prairies, and deserts. And they even live in cities like Kansas City and St. Louis. In fact, biologists estimate that more than 2,000 coyotes live in Chicago, the third largest city in America.

© S&D&K Maslowski | FLPA | Minden Pictures



© Jami Heimbuch | Minden Pictures



## Furry Einsteins

One reason coyotes can survive nearly anywhere is because they're super smart. The cunning canines often follow circling crows and vultures to find dead animals for dinner. They slink around the edges of fields while farmers cut hay, hoping to intercept rabbits and rodents fleeing from the mower. And they've even been known to team up with badgers to bag snacks, which spells double the trouble for tunnel-dwelling prey. If a ground squirrel hunkers down in its home, the burly badger digs it up for dinner. But if the squirrel scurries out of its burrow, the crafty coyote is waiting to snap it up.



## *Hungry Hunters*

Coyotes aren't picky about what they stuff in their pie-holes. Rabbits and mice make up most of the menu, but the predatory pooches will eat whatever they can catch, including squirrels, deer, birds, carrion (already dead animals), fruits, pet food, and even human garbage.

Unlike wolves, which hunt together in packs, coyotes usually hunt alone. To catch small prey, a coyote sneaks up as close as it can, freezes in place for a moment or two, and then — SPROING! — leaps high in the air so it can pounce on the unsuspecting snack with all four paws.



## *Doggone Fast*

To escape danger or run down fleet-footed prey, a coyote can scurry in a hurry. Missouri's fastest land animal can sprint short distances at a blistering 45 mph. That's doggone fast! Compared to coyotes, people are at the back of the pack. The fastest human sprinters can reach speeds of only 27 mph.

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© Twildlife - Dreamstime.com

## New Digs

For most of the year, coyotes simply sleep on the ground in a hidden, protected spot. But in the spring, coyote couples search for a den. Sometimes they remodel a burrow that was once owned by a fox, woodchuck, or badger. Other times, they dig their own den in loose soil. The home-sweet-holes are often in a bank, under a hollow log, or beneath a deserted building. Wherever it's located, the den will soon become a lot more crowded.

## Pack of Pups

In late April or May, a mama coyote settles inside the den to have her babies. She usually gives birth to about six puppies, but some super moms may have more than a dozen little howlers.

Raising babies is hard work! The newborn pups are blind and helpless. Mom feeds them milk and licks them clean. Dad doubles up on hunting duty, bringing home extra food so mom doesn't get hungry.



© Habicht, Michael / Animals Animals



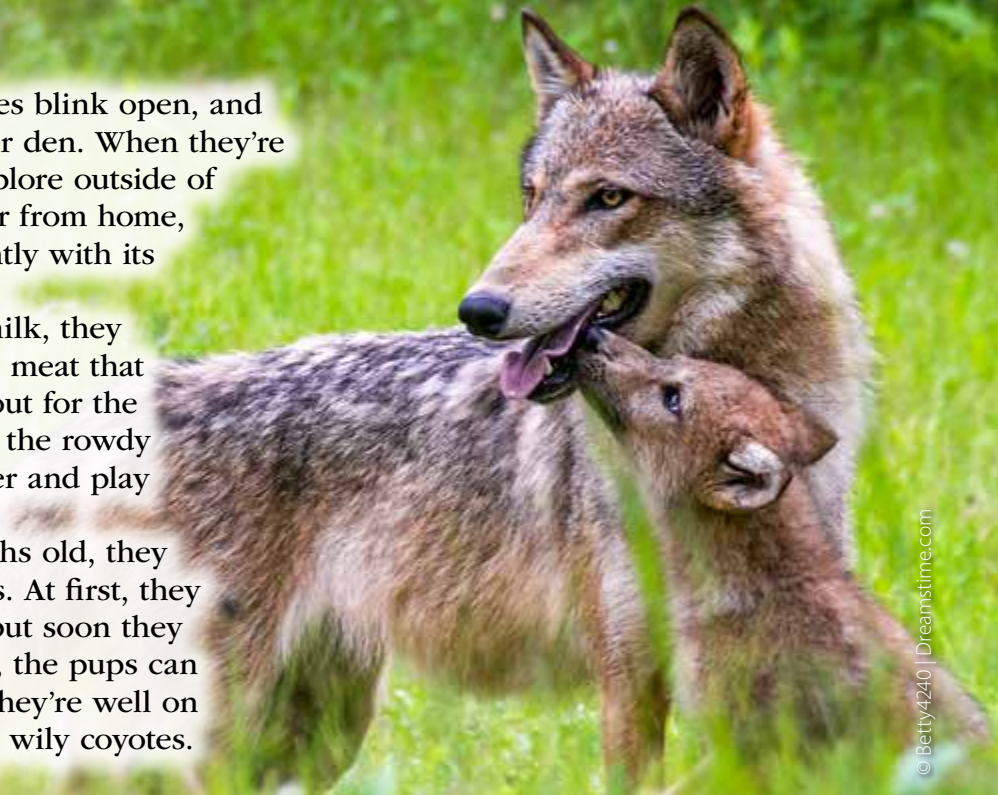


## Puppy Chow

In about two weeks, the pups' eyes blink open, and they begin to wander around their den. When they're 5 or 6 weeks old, they start to explore outside of the nursery. If a pup strays too far from home, one of the parents picks it up gently with its teeth and carries it back to safety.

When the pups quit drinking milk, they start eating "puppy chow." This is meat that mom and pop chew up and spit out for the pups to eat. In between feedings, the rowdy youngsters wrestle with each other and play tug-of-war with bones and sticks.

When the pups are 2 or 3 months old, they join their parents on hunting trips. At first, they watch mom and pop catch prey, but soon they join in the effort. By late summer, the pups can fend for themselves, and by fall, they're well on their way to being yappy, snappy, wily coyotes.



© Betty4240 | Dreamstime.com

THIS ISSUE:

# BROAD-WINGED HAWK VS EASTERN CHIPMUNK

illustrated by David Besenger



**Sharp eyes, sharper talons**

The hawk's big eyes target prey and guide steel-trap talons in for the kill.

**Forest-forged flappers**

Short, broad wings help the hawk swoop and dodge through trees and branches.

**Ziggy zipper**

The chipmunk's speedy, zig-zagging dash for home tests the hawk's acrobatics.

**AND THE WINNER IS...**


Just in the nick of time, the chipmunk dives into its hole. The hawk veers off to hunt other prey — for now.

# STRANGE but TRUE!

YOUR GUIDE TO ALL THE  
UNUSUAL, UNIQUE,  
AND UNBELIEVABLE  
STUFF THAT GOES ON IN NATURE



Huddle up!  
**GOLDEN MICE**  
build softball-sized  
nests in bushes and  
trees. Usually only  
one mouse lives in each  
nest. But on chilly winter  
days, up to eight mice may  
crowd inside to stay warm.



Although they can't see well with  
their eyes, a **HELLBENDER'S**  
wrinkly skin is covered with light-  
sensitive cells. Scientists think the cells  
help the aquatic salamanders know when  
they're safely hidden under shady rocks.



**DUCKS** can be sorted  
into two groups based  
on how they get food.  
Dabbling ducks find  
food by dipping their  
heads underwater, leaving  
their bottoms high and dry. Diving ducks plunge  
below the water's surface to snag soggy snacks.



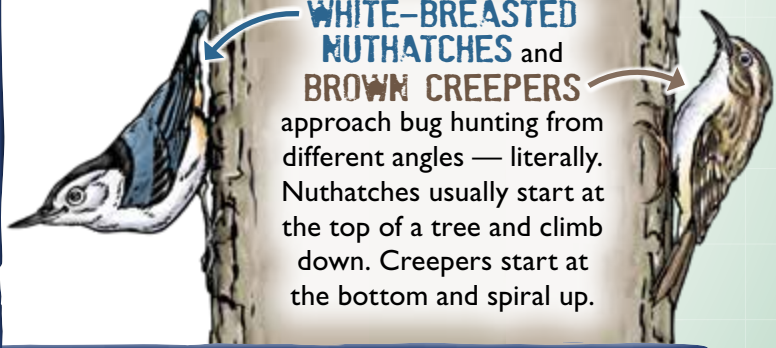
The brown, fluffy  
part at the top of a  
**CATTAIL** stalk may  
contain over 200,000 tiny  
seeds. When the wind  
blows, the seeds can sail  
more than 100 yards away  
from the parent plant.

Super sneakers: When stalking prey, **BOBCATS** place  
their back paws in the exact same places that their  
front paws once were. This helps the cat  
stay *purrfectly* silent, so it  
can slink  
close before  
pouncing  
on prey.



**WHITE-BREADED  
NUTHATCHES** and  
**BROWN CREEPERS**

approach bug hunting from  
different angles — literally.  
Nuthatches usually start at  
the top of a tree and climb  
down. Creepers start at  
the bottom and spiral up.



**ALLIGATOR GAR** are freakishly large and covered in  
armorlike scales. The scales, which are made of a substance  
similar to tooth enamel, are so hard and sharp that Native  
Americans used them for arrowheads.



# HOW TO

## Clean a Rabbit

NOT A RABBIT!

Nothing beats the thrill of chasing a beagle as it boogies through the underbrush, sniffing out cottontails. And if you're lucky enough to bag a few bunnies, you'll be treated to one of the tastiest wild critters you'll ever get the chance to eat. But how do you get your harvest from the field to the frying pan? It isn't as hard — or as yucky — as you might think.

### HERE'S WHAT YOU NEED

- Nitrile or latex gloves to protect your hands from germs
- A sharp knife
- An adult to help

## HERE'S WHAT YOU DO

1



Cut the skin around each hind leg just above the rabbit's knees.

2



Make a long cut from one hind leg to the other to connect the circular cuts you made in Step 1. Stay on the inside of the legs and include the tail in this cut.

3



Pull the skin down so that both hind legs show.

4



Push your fingers under the skin along the rabbit's back. Hold both hind feet in one hand and pull the skin down with the other hand to separate it from the meat halfway down the back.

5



Repeat Step 4 on the rabbit's belly. Continue pulling down the skin on the back and the belly until you reach the rabbit's front legs.

6



Working on one front leg at a time, peel away the skin while tugging the meat in the opposite direction. Once the legs are free, pull the skin down until you reach the rabbit's head.

7



Use a sharp knife to remove the rabbit's head and feet.

8



Make a shallow cut down the center of the rabbit's belly from its breastbone to its pelvis. Be careful! You don't want to cut through any internal organs.

9



Reach into the body cavity and grab just above the heart. Pull down until all of the internal organs are removed. Rinse the meat well.

# XPLOR MOR

## Wild Times

In nature, some things happen quickly and some things happen slowly. For example, during the summer, a thirteen-lined ground squirrel's heart beats about 300 times each minute. That's fast! But during hibernation, the same squirrel's heart slows down to only 300 beats each hour. That's S-L-O-W.

### Instructions

Do you have a good sense of time? Let's find out. For each of the following facts, circle the choice for how long it takes to happen.



1. At the peak of growth, a white-tailed deer may add half an inch to its antlers each \_\_\_\_.

- A. minute B. hour C. day

2. River otter pups learn to swim when they're about 12 \_\_\_\_ old.

- A. hours B. days C. weeks



3. Scarlet tanagers are beautiful bug-bashing machines. The flame-red birds can eat 2,000 caterpillars in one \_\_\_\_.

- A. hour B. day C. week



## WHAT IS IT?

— FROM PAGE 3 —

Reindeer moss isn't a moss at all. It's a lichen, two organisms that work together. When the right kind of fungus meets the right kind of alga, they form finely branched mounds, especially on rocks. The fungal filaments draw in minerals, and the alga turns sunshine into sugar. Although no reindeer live in Missouri, our native white-tailed deer will nibble at reindeer moss in open, rocky areas in the Ozarks.

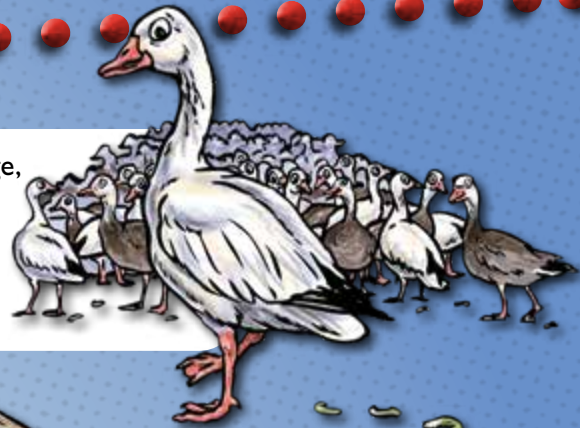


# F



**5.** Using only its teeth, a beaver can chew down a willow tree that's thicker than your leg in under five \_\_\_\_.

- A.** seconds
- B.** minutes
- C.** hours



**4.** Super poopers: On average, a snow goose goes to the bathroom every four \_\_\_\_.

- A.** seconds
- B.** minutes
- C.** hours



**6.** Bumblebees are buzzy — and busy. On average, this hardworking insect visits 500 flowers every \_\_\_\_.

- A.** hour
- B.** day
- C.** week



**7.** Little brown bats are better than a bug zapper. A single bat can catch and eat up to 1,000 insects in one \_\_\_\_.

- A.** minute
- B.** hour
- C.** day



**8.** Pouch potatoes: Minutes after they're born, baby opossums crawl into their mama's pouch and don't come back out for 70 \_\_\_\_.

- A.** minutes
- B.** hours
- C.** days



**9.** A ruby-throated hummingbird flaps its wings about 50 to 200 times each \_\_\_\_.

- A.** second
- B.** minute
- C.** hour

**10.** The spiders living in a patch of woods the size of a football field eat more than 80 pounds of insects in one \_\_\_\_.

- A.** day
- B.** month
- C.** year



**11.** On moonlit nights during mating season, an eastern whip-poor-will can sing its name 60 times each \_\_\_\_.

- A.** second
- B.** minute
- C.** hour

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FREE TO MISSOURI HOUSEHOLDS

# CRITTER CORNER American Bison



Also known as buffalo, the bison is North America's largest mammal. A big bull can weigh more than a heavy-duty pickup truck. Like cattle, bison compete for dominance. Bulls will chase away rivals, and it's the boss cow that leads the herd. Cows have one calf per year, and their babies are born with reddish fur. You can see a wild herd of these native grazers at Prairie State Park in Barton County. Learn more at [mdc.mo.gov/field-guide](http://mdc.mo.gov/field-guide).