

Home School Series: K - 2

November: Unusual Animals

- Start Up:** (5-10 min) **Bat Attitude** true & false cards
Mounts or pictures of unusual animals like bats, opossum, moles, & shrews.
- Welcome/ Introduction:** 1 min. Staff/Volunteer Names
Today's Topic-Unusual Animals
Question: What makes an animal unusual?
- Opener:** 15 min. **Keeping Track of Baby scent game** (*Ranger Rick*)-
Briefly explain the ways mammals depend on their sense of smell:
Finding prey, sensing predators, finding mates, keeping with their group, marking a territory, mothers finding babies, snorting to get fresh air to smell.
- Divide students into two groups-mammal mothers and mammal babies.
 - Give each group 1/2 of a set of film canisters containing matching scents.
 - Ask the students to sniff their scent.
 - The “mother mammals” sniff scents in the other group to match up with their “babies”.
 - Switch groups and mix scents up within groups. Have new mothers find their babies.
- Discuss how many mammals have a much better sense of smell than we do.
- Background/ Exploration:** 45 min. Do two or three of the following animal interviews as time allows:
BATS-Bats are unusual and misunderstood creatures that are actually very interesting.
- ♣ Look like flying mice, but they are not. Show posters or pictures.
 - ♣ The only mammals that can really fly. (Flying squirrels just glide)
 - ♣ Eat insects. They can gobble up 600 mosquitoes in one hour!
 - ♣ People are sometimes scared of bats, because they come out at night (are nocturnal).
Why do they come out at night? There are more insects at night when it's cooler.
 - ♣ Don't see very well, but sense things and fly by **echolocation**.
They make noises, then hear the noises bounce off of insects and other things.
 - ♣ Won't bother people, or fly into their hair, because they sense and avoid them.
 - ♣ Rest during the day by hanging upside-down. No other animals do this.
 - ♣ The main bat in Iowa is the Little Brown bat, which migrates south in winter.
 - ♣ Wings are tough skin between long fingers. Claws on fingertips help them crawl.
 - ♣ Have one or two babies. They can fly around with them when they're small.
 - ♣ Very helpful. We can help them by building and putting up bat houses.
- Activity:** 5 min. **Echolocation demonstration**-Light a candle. Aim an empty round oatmeal/cornmeal box with a tiny hole in its cardboard or plastic lid toward the candle. Tap on the bottom of the box, which “blows” the candle out. This shows how moving air is there even though we can't see or hear it, like the sounds bouncing off flying insects travel back to a bat's ears.
- Game:** 10 min. **Bat and Moth** (Cornell)-Blindfold one of three or four students in the center of a ring of students. The blindfolded “bat” calls out “bat!” every few seconds. Each time, the “moths” have to answer “moth!”. The students in the ring keep the bat and moths inside as the bat tries to catch the moths by following their sound.

OPOSSUM-Captain John Smith of Mayflower fame described the possum as having a head like a pig, a tail like a rat, and the size of a cat (Shedd). They are very unusual.

- The only North American marsupials. They have a pouch for their young, like kangaroos and koalas.
- Their light colored face that looks eerie in the moonlight.
- Nocturnal and omnivorous-eat fruit, eggs, small rodents, worms, insects, & nuts.
- They have 50 teeth-more than any other mammal on our continent!
(compare to # of human (32), cat (28), & dog teeth (42)).
- Usually only live about 2 years in the wild, which is a short life span!.
- Don't really hang by their tails, but do use them to help grab branches for balance.
- 'Play dead', or freeze, when caught by a predator, which may then lose interest and not eat them. Predators may be foxes, coyotes, or dogs.

Possum Life cycle-

- ♣ Babies are born tiny and undeveloped-blind, deaf, & hairless (raisin size!).
The newborn babies crawl into the mom's pouch after they are born, where they nurse and live for three months.
- ♣ The babies ride in the pouch while the mom hunts for food.
- ♣ After they are too big to ride in the pouch, they cling to mom's fur to get carried along.
A few weeks later, they can live on their own.

5 min. **Possum legend**-Read or tell the story of how Possum's tail got to be hairless (Shedd, Caduto).

Game: **Coyote and Possum** (Shedd)-Possum players move/dance around wildly, then freeze on signal (yell 'freeze!'). Coyote ('it') tries to make possum players smile, laugh, or move. Those who move are out. Last player left is Coyote next round. Music can be used for the dancing part, and stopped as a signal to freeze. (good outside game)

MOLES-More unusual than you might think. Show a picture, mount, or puppet.

- ♣ Live underground in the tunnels they dig.
- ♣ Have stout 'tunnel shaped' (cylindrical) bodies up to 8 inches long.
- ♣ Front shoulders, legs, and feet are big to make digging with their claws easier.
- ♣ Tunneling aerates the soil, which helps reduce erosion.
When making tunnels, it looks like moles are swimming through the soil.
- ♣ Hear well, but ear openings are under their fur, they have no outside ear flaps.
- ♣ Eyes are tiny-eyelids don't open far. Eyesight is weak but can sense light from dark.
- ♣ Snout is very flexible, used for sense of touch as well as smell.
Nostrils are on the upper surface of their snout.
- ♣ Thick fur lies flat in either direction, which allows forward/backward tunnel motion.
- ♣ Tail has no fur, and can be used for sense of touch going backward.
- ♣ Moles are carnivorous predators called insectivores.
They eat one-half their body weight in worms and grubs (insect larvae) each day.
- ♣ Active in both day and night.
- ♣ Have a scent gland on their belly which leaves an odor as they travel in their tunnels.
- ♣ They do not hibernate, but dig their tunnels deeper (below frost line) in the winter.

Compare to Pocket Gopher-An herbivore. Eats only plants/roots, tunnels farther underground, leaves round mounds of bare dirt on surface, not ridges along ground like moles.

SHREWS-Shrews are small energetic insectivores known for being fierce.

- ♣ They attack anything!
- ♣ Need so much energy they must eat every 1-3 hours. They can't hibernate.
- ♣ Eat snails, insects, worms, mice, & snakes.
- ♣ Have a poison gland behind their front teeth (incisors).
The poison gets in the prey's blood after the shrew bites, which paralyzes it.
- ♣ Senses of smell and hearing are very good, which is how they find prey.
- ♣ Eyes are tiny.
- ♣ Nose is shaped like a shovel, good for burrowing.
- ♣ Shrews have velvety fur and a short tail.
- ♣ Owls, snakes, and other mammals eat shrews.
A shrew's scent gland repels some predators from eating them.
- ♣ An African shrew is the world's smallest mammal, weighing 1/16 oz. It can eat 2 times its body weight, and may actually be frightened to death if its heart rate gets too high.

Prepare to go Outside:
10 min.

Restroom break.

Bring: Water bottles, hats, jackets

Trail Rules (see The First Program).

What we will do/What to look for-Unusual animals, their homes and their signs.

OUTDOOR EXPLORATION:
70-90 min.

Look at any nearby bat houses. Mention how the bats use them.

Are there any bats in the houses now?

Most have gone south-no flying insects to eat in cold weather.

Find some holes in dead trees where a bat might live in the summer.

Game:

Shrew Parade-Tell how baby shrews make a chain behind mom by holding each other's tails when danger is detected. Have the students line up behind each other when you call out "danger" (do periodically while on the trail).

Walk along the trail and look for gopher mounds (bare dirt piles) and mole runs (raised trails along the surface). Are these animals active now? (moles)

Find things that an opossum would like to eat (nuts/seeds, fruit, insects, etc).

Send Off: Goodbye!
Next Month-Animal Signs & Sounds

Take Home: Parent Outline
Bat puzzles

Vocabulary

Mammal, echolocation, marsupial, nocturnal, predator, carnivore, herbivore, insectivore, hibernate

Background and Activity References for Naturalists and Parents

- Caduto, Michael J., and Joseph Bruchac. 1991. *Keepers of the Animals: Native American Stories and Wildlife Activities for Children*. Fulcrum Publishing, Golden, CO. P. 173 Possum tail story
- Cornell, Joseph. 1979. *Sharing Nature With Children*. Dawn Publications, Nevada City, CA. P. 95 Bat & Moth game
- Educator's Activity Book About Bats*. 1991. Murphy, Mari, ed. Bat Conservation International, Austin, TX. Pp. 9-12 Bat Attitudes-bat true & false cards; bat background & various activities, puzzles
- Lingelbach, Jenepher. 1986. *Hands-On Nature: Information and Activities for Exploring the Environment with Children*. Vermont Institute of Natural Science, Woodstock, VT. P. 77 Shrews
- Ranger Rick's Naturescope: Amazing Mammals Part I*. 1987. National Wildlife Federation, Washington, D.C. P. 9 Keeping Track of Baby scent game
- Ranger Rick's Naturescope: Amazing Mammals Part II*. 1986. National Wildlife Federation, Washington, D.C. P. 42 Bat fact page; bat activity sheets; pp. 53-54 Shrews & Moles
- Shedd, Warner. 1994. *The Kids' Wildlife Book*. Williamson Publishing, Charlotte, VT. Pp. 10-15 Bats; pp. 20-25 Opossum, Coyote and Possum game, p. 23 legend; pp. 126-133 Owls
- The National Audubon Society Field Guide to Mammals*. 1980. Chanticleer Press, Inc., NY.

Extensions/Alternate Activities/Rainy Day

Make bat masks (Bat Conservation Int'l). *Cut out eyes ahead of time or have an adult help at the program.

Do a hearing experiment (Shedd) to illustrate how a bat's large ears help it hear. Sit one student in a chair with a blindfold on. Ask a few others to ring a bell or clap one at a time from different locations. The blindfolded student tries to point out the direction of the sounds. Repeat with the blindfolded student cupping his/her hands behind their ears. Discuss human ears compared to bat ears.

Puppets-Use opossum, bat, or mole puppets to help illustrate the animals lives.

Put 600 pieces of pasta (macaroni) or beans in a jar to show the students how many mosquitoes bats eat in one hour. If time allows, have the students count the pieces (Shedd).

Snack on fruit that bats eat or pollinate (bananas, avocados, figs, peaches, mangos, etc.)

Little Starnose (*Ranger Rick*-II, pp. 55-56)-Read a mole story and make mole noses.

Owls-Show picture or mounts of a couple of owls. Note owl faces with the big eyes and facial disc. Tell how they can't move their eyes, but their heads can move $\frac{3}{4}$ around. Explain and show some owl pellets.

Salamanders-Newt eggs hatch in the water, where the larvae live. Then they develop lungs and are called "efts". The eft goes to live under logs in the woods. Then, when they are old enough, they come back to live in the water and mate. This is an unusual way to live even for amphibians (Shedd).

Unusual Insects-Share facts about the preying mantis, walking stick, etc.

Supplies:	Bat mount and/or puppet		
	Opossum mount		Pictures of bats
	Mole mount and/or puppet		Pictures of moles
	Pocket Gopher mount or picture		Pictures of opossum
	Picture of a shrew		Blindfolds (2-3) for Bat and Moth
	Pictures of other unusual animals: Walking sticks, leaf insects, etc.		Radio or CD player for Possum and Coyote
	Empty round cardboard box w/lid	Scents for game	-film canisters, -cotton balls
	Opossum tail legend		

Advance Preparation: Punch a small hole in the center of the cardboard box lid for the echolocation experiment.

Keeping Track of Baby-Make two matching sets of scents with film canisters and cotton balls.

Make enough for ½ your students in each set.

Use liquid scents (lemon, cinnamon, vanilla, vinegar, etc.) or fragrant items that can be hidden under the cotton ball in each canister (pine needles, chocolate chips).

Cut out bat mask eyes if you will be making them.

Copy and cut out **Bat Attitude** true & false cards to use with students as they arrive.