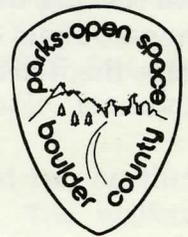


Winter
1992



Nature Detectives

Who's been here? What were they doing and why were they doing it? When did it happen? Nature detectives try to answer questions like these by looking for clues and evidence of the activities of creatures in the outdoors.

Have you ever wondered about teeth marks on the trunk of a tree, or strange footprints in the snow or mud? If you have, then you are already a nature detective.

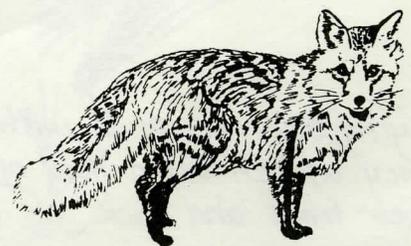
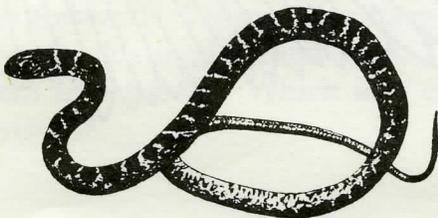
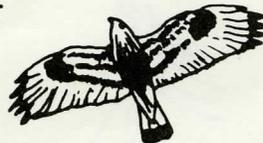
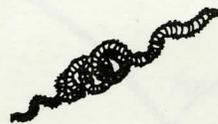
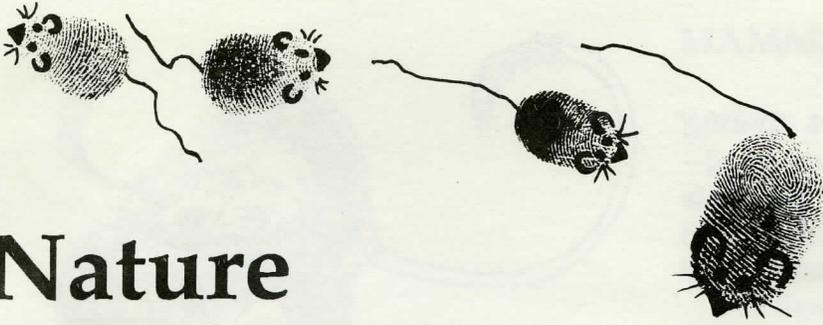
THEME:

GETTING AROUND

Slither, hop, swim, lope, soar, spring, wriggle--what do these words have in common? They are all words that you could use to describe the way animals get around. Whether they are hunting for food, finding a home, or escaping from their enemies, most animals move about. (Can you think of an animal that stays put?)

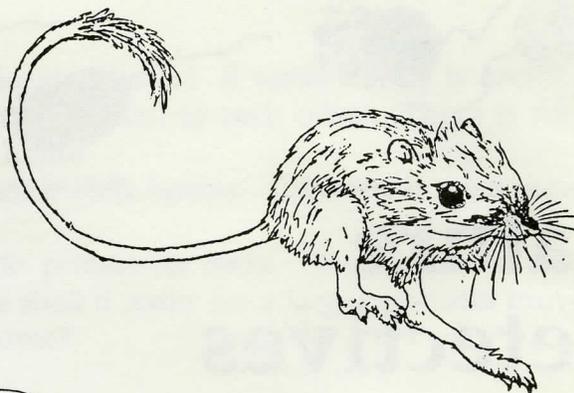
But that's only the beginning of the story. Animals have special features, or **adaptations**, that help them get around. These adaptations fit their lifestyle. Do they travel on land? Do they chase prey? Then long legs might help them to lope across the prairie. Do they fly from flower to flower seeking nectar? Then wings, feathery or otherwise, keep them airborne. Do they live their lives in the watery deep? Perhaps fishy fins or froggy flippers help them get around. Do they eat their way through the soil making tunnels as they go? Then having no legs to stick out and get in the way might be a great help!

Which word from the list fits the way that each of these animals gets around? Write the word next to the picture and figure out what helps that animal move the way it does.



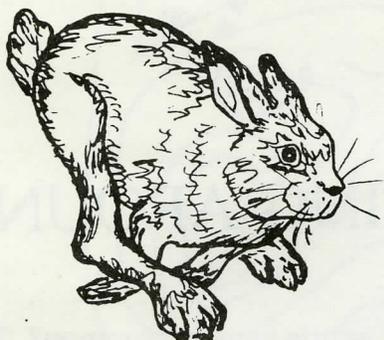
COOL FEET

Kangaroo rats live in the desert. During the day they move about the hot sand-- QUICKLY. (Ouch!) By hopping high in the air and flicking their tails to one side or the other, kangaroo rats can turn around in a flash. This helps them keep their feet cool, too!



SNOW BUSINESS

Do you sink when you walk on snow? The snowshoe hare doesn't. A snowshoe hare has special back feet that allow it to romp on top of the snow. The toes on its hind feet spread out so its feet are big. This spreads the hare's weight over the surface of the snow. It is able to stay on top of the snow and go on its way. Long hair that grows between the toes also helps it stay on top of snow. We can make snowshoes to help us walk on snow, but this hare has them built right in!

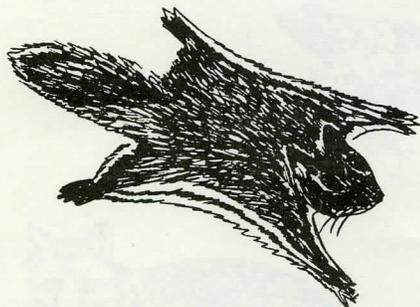


WONDER WINGS

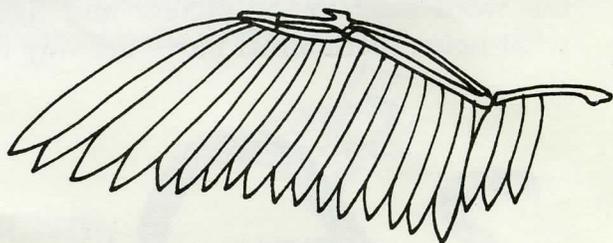
Animals that travel in the sky rely on the shape of their wings and the movement of air to keep them airborne. But they don't all fly in the same way.



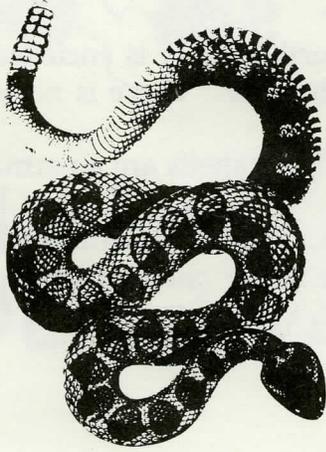
Bat wings are made of a web of skin stretched between long finger bones.



Flying squirrels glide without wings! They use an extra fold of skin between their front and back legs as a parachute.



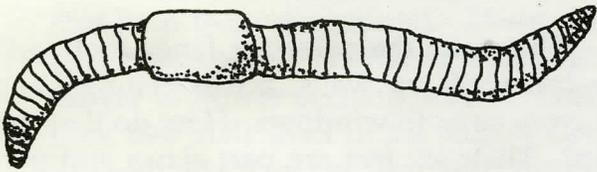
MAMMALS ON THE MOVE



NO LEGS? NO PROBLEM!

Lie on your stomach on the floor with your arms by your side and your legs together. Now try to move forward without using your legs or arms! Can you do it?

Snakes do it. They have powerful muscles that contract in waves to move their bodies. Some snakes have large belly scales that can be raised or lowered by muscles. These scales dig in just enough to give the snake a grip on the ground.



Earthworms do it. The worm has ring-shaped muscles that contract to make its body longer so it can reach forward. Other muscles run lengthwise. When they contract, the worm's body gets shorter, pulling the tail towards the head. This is how the worm moves forward. Worms also have bristles on their underside to give them grip. Try stroking a worm underneath. Which way can you feel the bristles?

Walkers and Runners:

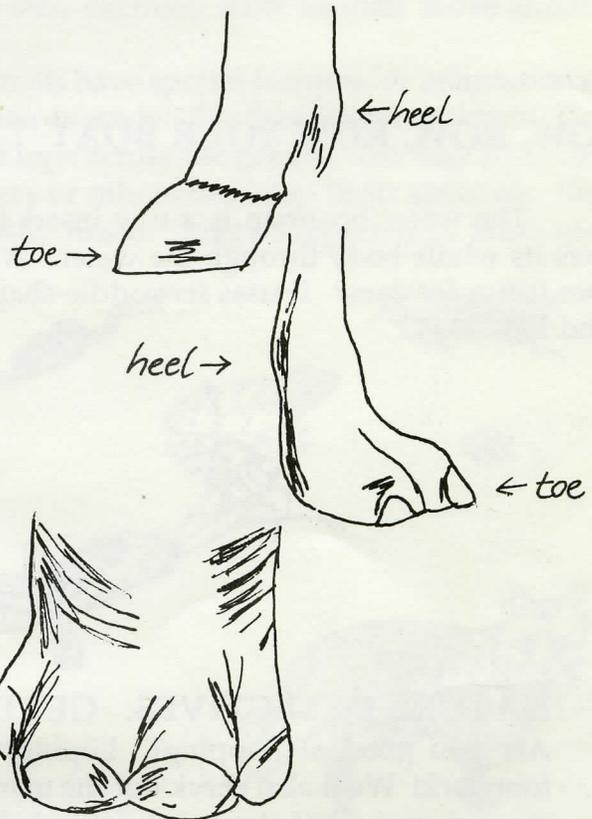
You probably know that most mammals walk and run on all four legs, but do you know that they use different parts of their feet when they move?

Bears walk and run on "flat" feet (the soles of their feet), just as people, raccoons, skunks, and porcupines do.

Other mammals walk and run on their toes (the pads of their feet). Toe walkers include wolves, foxes, dogs, and cats—the speedy hunters.

And don't forget those mammals that can be seen "hoofing" it! They actually walk on hooved toes. Some **ungulates**, mammals with hooves, have an odd number of toes. Horses and zebras are like this. They have one toe on each foot. Other ungulates are even-toed. Deer and camels are like this. Look at the hooved toes in the picture and see if you recognize their owners.

The elephant is a primitive ungulate, different from both the even-toed and odd-toed mammals. It has hooves on its toes, but most of its weight is supported on flat, elastic pads.



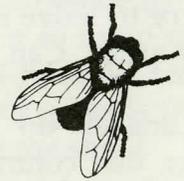
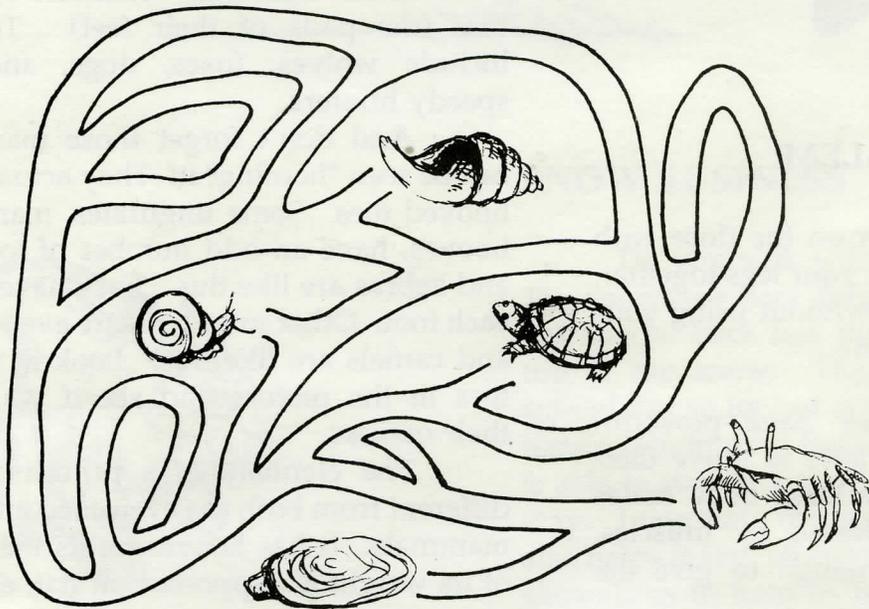
MOBILE HOMES

Some animals get around without ever leaving home! A turtle's body is enclosed in a shell made of bony plates. Its ribs and shell are attached to each other. There is no way a turtle can leave its shell. A turtle is always at home.

Snails and clams also move around in their mobile homes. Their shells are a permanent part of their bodies.

A hermit crab has to borrow a home to protect its body. It crawls into an empty mollusk shell. If the crab grows too big for the shell it looks for a larger one and moves in!

Can you help this crab find an empty home?



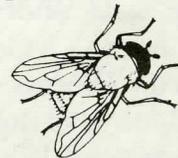
FANCY FOOTWORK

ROW, ROW, ROW YOUR BOAT

The water boatman is a tiny insect that rows its whole body through the water. What does it use for oars? It uses its paddle-shaped hind legs.



Flies take the prize for fancy footwork. They can walk up walls, across ceilings, and even cross smooth windows. How do they get a grip? Their six feet are part claws and part hairy and sticky pads. They can hold on to tiny bumps and ridges that we can't even see. And that's not all. Flies taste with their feet. While they walk over those surfaces, they test for sweet and sour flavors. If they find what they are feeling for (food), out comes a sponge-like mouthpart. Slurp! Yum!



NATURE DETECTIVES: GETTING AROUND:

Are you good at hopping? Loping? Wriggling? Crawling? Come and try some fancy footwork! We'll also check out the marsh residents--land, air, and water--and see how they get around, and what signs they leave behind. See "Discover Nature Calendar" for details.