

SUMMER  
1984

# 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:

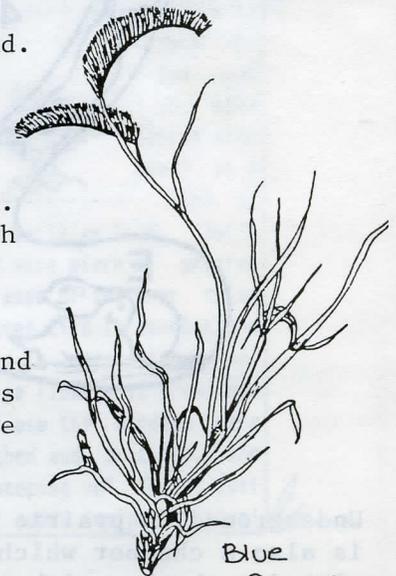


## Fields & Meadows

The prairie sweeps up to the mountains in Boulder County making rich habitats where they meet. Before towns grew on the plains, grassland spread eastward unbroken except by streams. Blue grama and buffalo grass formed a dense short-grass prairie--home of the buffalo and many other animals. Grasslands also may be found in the mountains whether dry fields in the foothills or rocky, exposed meadows on the tundra.

Grasses are the dominant plants of fields and meadows. Colorful flowers and shrubs are found also, but trees are less common, growing only in moist spots or sheltered from wind. Grass flowers are small and drab. Plants with showy, fragrant flowers attract insects to carry pollen from one plant to another, but wind carries the pollen of grasses. Many animals graze on grass stems and leaves or eat the nutritious seeds. The stems and leaves contain silica, a compound found in glass. Silica wears the teeth of grazers, and many grazers have teeth which continue to grow as the teeth wear down. Grazers may be as small as voles and grasshoppers or as large as pronghorn and elk.

Nature Detectives can look for interesting clues in fields and meadows. The grass itself may tell a story. Needlegrass seeds plant themselves as the long tail helps twist the seed into the soil. Look for the "toothbrush" seed heads of the blue grama. Can you find burrows and runways? Where do meadowlarks build nests? What do ants take into and out of anthills? Inspect fields and meadows this summer--you may be surprised to find interesting things as close as your softball field!



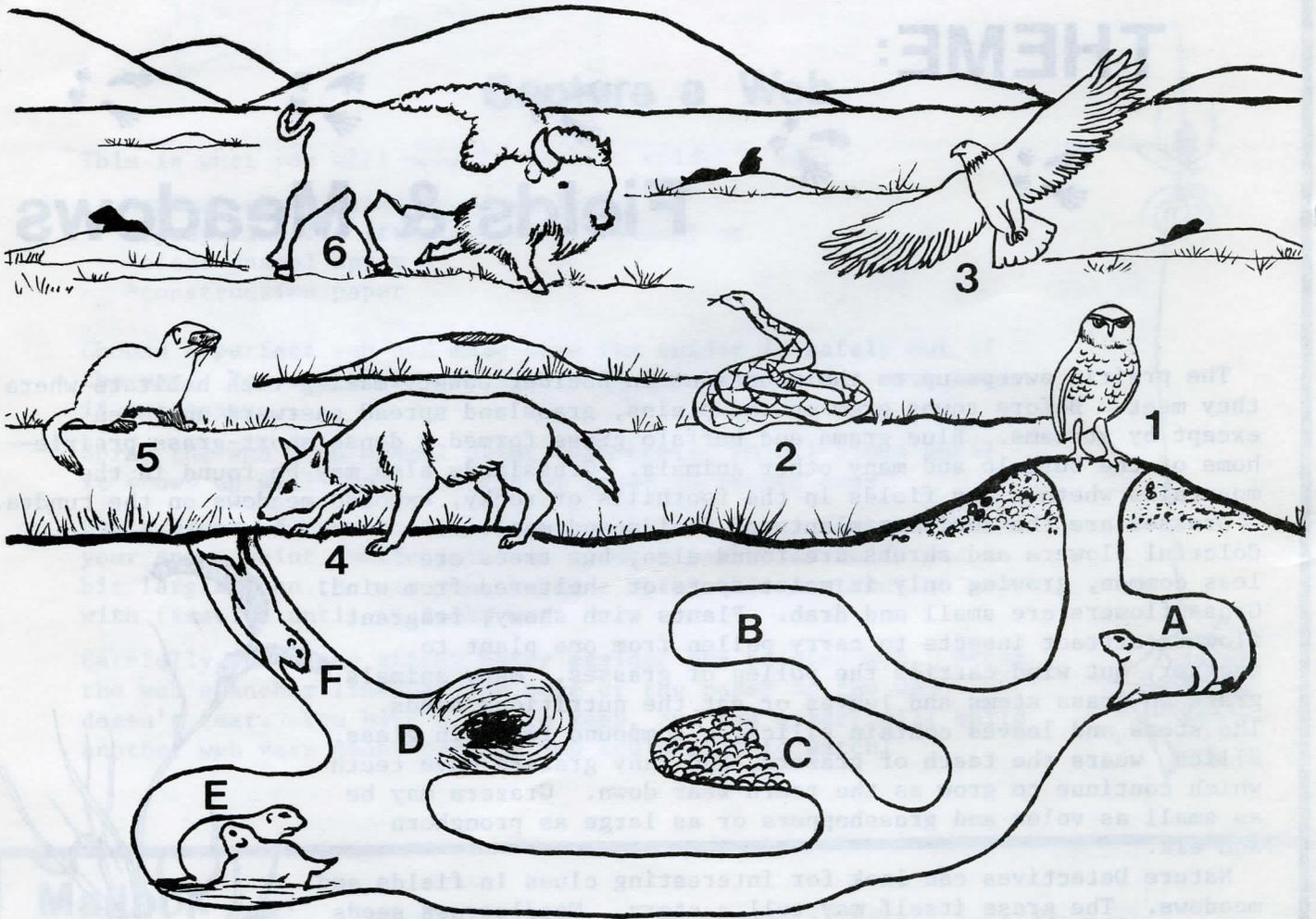
Blue  
Grama

# Big Town on the Prairie



Black-tailed prairie dogs are plump, rabbit-sized rodents which live in colonies called "towns." To find these towns around Boulder County, look for fields which are dotted with foot-high dirt mounds. These mounds mark the entrances to burrows which connect to form large underground tunnel systems. You can often see the prairie dogs sunning themselves on the mounds or scurrying between them while looking for seeds, roots, and grasses to eat.

A prairie dog town may be home to hundreds of other animals. Burrowing owls(1) and rattlesnakes(2) often take shelter in the burrows. Golden eagles(3), coyotes(4), and black-footed ferrets(5) hunt the prairie dogs in the town. Bison(6) love to wallow in the bare, dusty areas of the town, sometimes right on top of an entrance!



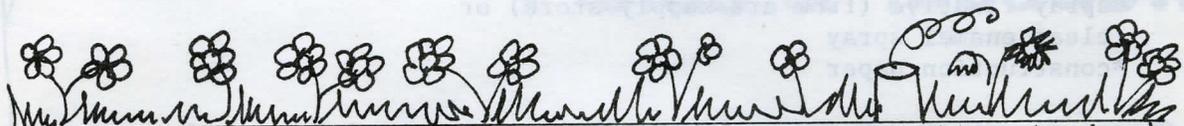
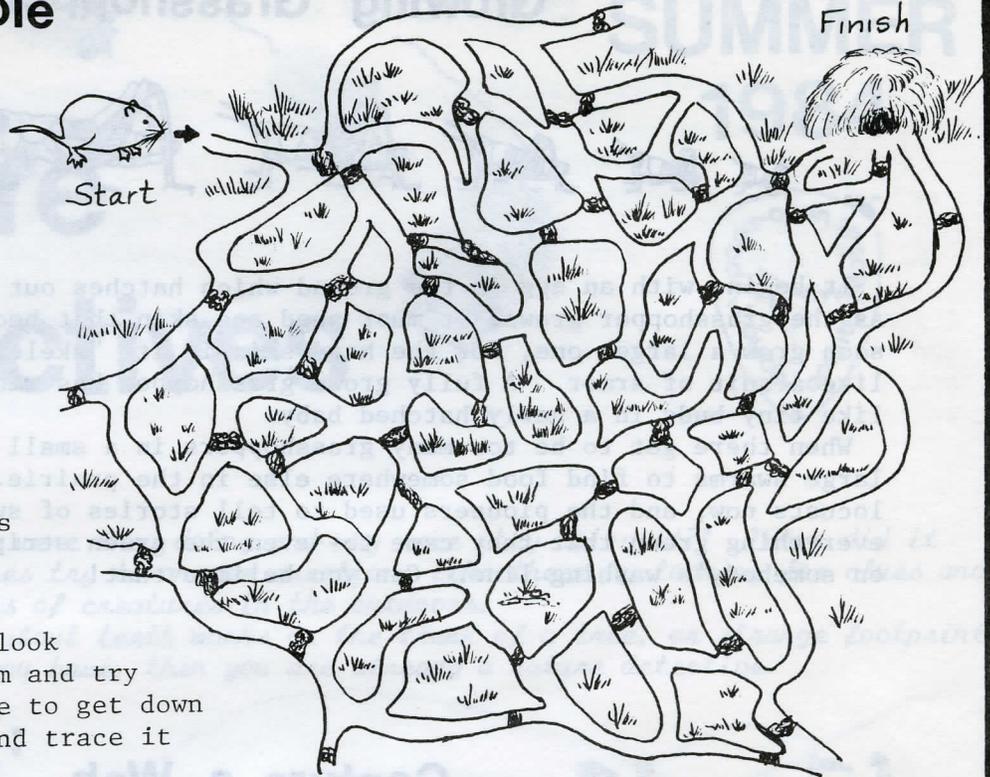
Underground, a prairie dog keeps alert for enemies at a listening post(A). There is also a chamber which stays dry during floods(B), a toilet chamber(C), and a sleeping chamber with a nest(D). A mother stays with her youngster in a nursery chamber(E). One prairie dog quickly dives into a tunnel to escape a coyote(F).

# The Amazing Vole

Meadow voles are short-tailed, mouse-like creatures who make lots of runways in moist, grassy meadows. These runways connect together to form a sort of maze which is hard to see, except in the winter when the grass is matted down.

Can you help this vole find her way to her nest? (She can't go on runways which are blocked by piles of pebbles.)

Nature Detectives, next time you're in a meadow--look for a vole's runway system and try to follow it. You'll have to get down on your hands and knees and trace it with your fingers!

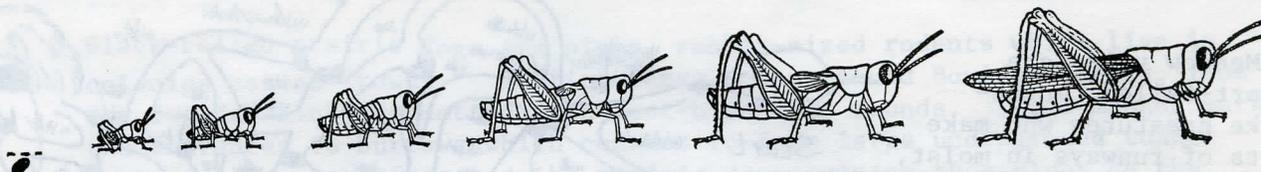


Pioneers who lived in the forests built their houses of wood. Those who lived in rocky places quarried stone to make their homes. In the southwest deserts, Indians and early settlers used adobe bricks, made from mud and straw baked in the desert sun, to make their very special adobe homes. But for the pioneers who lived on the open prairies it was a different story. There were very few trees - willows and cottonwoods along the rivers - not enough to build with. There were no suitable rocks to quarry. So the settlers built houses out of the prairie itself! They used sods, which were strips of prairie grass and roots cut from the ground by a plough. These rectangles of earth, roots & grass were stacked in layers to build up the walls, making sure that the joins of a row were covered by the sods just like you make houses & other models; when you build with lego! Sometimes half of a sod home would be dug as a kind of basement first, so that the walls didn't have to be built as high. Walls took a lot of strips of sod, about a football-field size piece of prairie would build a small home. The roof was sometimes made of sod over criss (tall reed grasses tied in bundles and fastened over roof beams). The roof probably leaked in rain storms too, but at least all that rain helped the roof-top prairie flowers to grow! Now that's a real roof garden! The inside was dark, because the windows were small. The walls were covered with plaster, smoothed mud, or cloth. The floor was often just packed dirt. Can you imagine sweeping up? "Let's just sweep the dust off the dirt!" I don't suppose moms yelled at their kids about muddy footprints then!



## Sod House

# Growing Grasshoppers!



It begins with an egg in the ground which hatches out as a tiny grasshopper. As the grasshopper grows, it must shed one skin that becomes too tight, and soon grow a larger one, for the hard skin is its "skeleton on the outside"--like a suit of armor. A fully grown grasshopper has wings, but the wings are like tiny buds in a newly hatched baby.

When there get to be too many grasshoppers in a small area, they migrate in large swarms to find food somewhere else in the prairie. They are called locusts now, and the pioneers used to tell stories of swarms of locusts eating everything green that they came to--even the green stripes on a shirt hanging on somebody's washing line. Can you believe that!

## Capture a Web

This is what you will need to catch a spider's web:

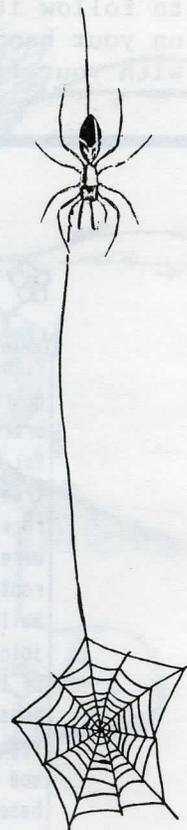
- \*enamel spray paint--good quality
- \*spray fixative (from art supply store) or clear enamel spray
- \*construction paper

Choose a perfect web and make sure the spider is safely out of the way. You can blow very gently to make the spider move away, if necessary.

Spray the web with enamel paint very gently on all sides until it shows up well--hold the can at least 10 inches away.

Cut a piece of construction paper that is a color contrast with your spray paint (white paint on black paper works well) and a bit larger than the web you choose. Spray the construction paper with fixative until it looks wet.

Carefully place the sticky paper against the painted web. Break the web's anchor lines at the edge of the paper so the web doesn't tear. You have a web to keep, and the spider will build another web very soon--perhaps you could stay to watch!



## Mailbox

What do you see in fields and meadows? Please send drawings, copies of field notes, or any other nature news to: NATURE DETECTIVES, Boulder County Parks and Open Space, P.O. Box 471, Boulder, CO 80306.

\*\*\*\* NATURE DETECTIVES' SPECIAL PROGRAM \*\*\*\*

Explore a meadow at the south end of the Mesa Trail with us on Saturday, September 15. See IMAGES for details.

