BISON MYSTERY BOX

Summary:
Students will investigate the many uses of bison in Native American culture.

Grade levels:
4-8; K-3

Time:
3-4 class periods

Subject:
science, social studies, literature

Skills:
analysis, application, comparison, description

Learning Objectives
Students will be able to:

- ✓ Explain the cultural and sacred significance of the bison to many Native American nations.
- ✓ Explain the role of bison in prairie ecosystems.
- ✓ Identify some of the many ways Native Americans used the bison in their everyday lives.

Materials:

- ✓ Bison Parts Cards
- ✓ Bison Uses Teacher Reference Sheet
- ✓ Bison Illustration Worksheet
- ✓ paper
- ✓ pencils
- ✓ Suggested books: *Grasslands,* Lauren Brown; *Bison for Kids*, Todd Wilkinson
- ✓ Bison magazine articles
- ✓ Objects for Bison Mystery Box, to represent items made from bison parts:
  - tassel (beard)
  - water bottle (bladder water container)
  - small knife (awl used for making marks and holes for sewing)
  - paintbrush (paintbrush)
  - sawdust or talcum powder (bison chips used for fuel)
  - small bells (bison dew claws, used as decoration)
  - toy horses (bison foot bones, used as toys)
  - cotton balls (buffalo hair, used to stuff pillows, or spun into rope)
  - spoon or bowl (bison horn, used to make dishes and utensils)
  - shirt (hide used to make clothing)
  - shoe sole (bison rawhide, used for moccasins, teepees, etc.)
  - ice skate (bison rib, used to make sleds)
  - soap (bison fat, used to make soap and wash rawhides)
  - pot (bison stomach, used to store water or as a cooking pot)
  - flyswatter (bison tail, used as hair ornament or flyswatter)
  - beads (bison teeth, used as necklace)

Background

The American bison *(Bison bison)* is the largest land mammal on this continent. Its appearance is distinctive — dark brown fur, massive head, horns, large hump (due to elongated vertebrae) over shoulders, and shaggy hair covering the head, shoulders, and front legs. Bison are **ungulates**, hoofed animals that primarily feed on grasses and sedges. As **herbivores**, bison have sharp incisor teeth for sniping plants and broad and flat **molars** for grinding plant material. In the wild, bison may live up to 15 years, while bison in a wildlife management situation may live to 20 years.

The average herd size is 60-100 individuals, although bison herds sometimes gather to form bands of several thousand individuals. Cows, calves, and subadults live in herds all year. Bison bulls live apart from the herd ten months out of the year and rejoin during the mating season. Group living provides individuals protection against predators, such as grizzly bears and wolves, since there are many eyes watching simultaneously. Bison often give signals of alarm, such as grunts or tail position, when a

NORTH AMERICA'S LARGEST LAND MAMMAL

	HEIGHT FT (M)	LENGTH FT (M) *(nose to tail)*	WEIGHT LBS (KG)
Bulls (males)	6 (1.8) at hump	10 (3)	1500-1200 (675-900)
Cows (females)	5 (1.5) at hump	4.5-5.5 (1.4 - 1.7)	900-1200 (405-541)
Calves (newborn	1.5 (.5) at shoulder	3 (1)	50 (23)

predator is heard or smelled. As a result, the herd may come together and move, perhaps **stampede**.

As a dominant feature on the North American landscape, bison were important to Native American tribes throughout the animal's range. Considered a sacred animal by many tribes, the bison was a primary source of food and supplied the raw materials for clothing, teepee covers, weapons, tools, utensils, and toys.

For many tribes, bison hunts were major events that involved most members of the band or tribe. Medicine men and dancers performed ceremonial rituals praising the bison and giving thanks for the lives of the bison that they were about to take. Respected leaders carefully planned the logistics of the hunt, and marshals enforced the rules throughout the entire process. Nomadic tribes typically moved their entire camp to the hunting grounds. After a successful hunt, additional religious ceremonies, prayers of thanksgiving, and a period of singing, dancing, and feasting followed. None of the bison was wasted; the people used the skins for clothing and teepees, bones for tools and utensils, meat for food, and countless other items.

More than 50 million bison once roamed throughout North America's grasslands, meadows, and sparsely forested areas in herds. However, commercial slaughter for meat and hides, which the U.S. military encouraged to destroy the Indians' food supplies and hasten their conquest, left fewer than 1,000 bison in the United States by the end of the nineteenth century, most of those in captivity. The only free-ranging herd of bison south of Canada was deep within America's first national park, Yellowstone, where a public furor erupted not long after the park was established in 1872, after word got out that poachers were killing bison. Park officials soon initiated stronger measures to protect the bison.

Today, nearly 350,000 bison are found in the United States, in legally protected herds in Yellowstone and the National Bison Refuge in Montana, and on privately owned lands, where many of the animals are being raised for a growing, $500-million-a-year market in buffalo meat and hides.

There is also a growing movement to restore the bison to its rightful place at the center of Native American culture. More than 50 tribes that have joined the InterTribal Bison Cooperative (ITBC), an organization founded by Native Americans in 1990 to assist and coordinate efforts to bring bison back to Indian lands. Members' herds already add up to nearly 9,000 head. And

with more than 13 million acres under tribal ownership nationwide, the potential is enormous—not only for the bison but for fritillary butterflies, prairie fringed orchids, vanishing swift foxes, and other species that rely on the same kinds of habitat. This is what Indians really mean when they speak of the Buffalo Nation: the whole, wonderfully diverse array of flora and fauna that revolves around grazing, trampling, wallowing, dustbathing and migration of the herds.

NWF is a part of the effort to restore buffalo to America's prairies by focusing on conserving two of the largest remaining buffalo populations, the Yellowstone National Park and Jackson, Wyoming herds. Managing these herds and their habitat in a balanced way that works for people and wildlife is an important step in restoring this species and all of America's grasslands.

(You may also want to reserve NWF's Bison Box. To do so, call 800-822-9919).

Preparation

✔ Assemble a Bison Mystery Box from the items in the materials list above. Place all items in a large box or bag.

✔ Gather books or magazine articles on bison for student research materials.

✔ Cut apart Bison Parts Cards.

Procedure

1. Ask students, *Have you ever seen bison? If so, what was most striking about the bison you saw?* Explain that bison were at the center of Native American culture.

2. Help your students identify the American bison by sharing with them the illustration of the bison provided.

3. Divide your students into small groups and have them read *Bison for Kids*, one of the other suggested books (see Resources section), or one of the articles provided to help students gain a better understanding of bison natural history and the role of bison in Native American cultures.

4. Assign, or have students select, one student from each group to record the group's research findings on paper. As they read or research, suggest that the groups come up with a list of bison questions. Some examples are:

✔ What types of habitat do bison prefer?

✔ What do bison eat?

✔ What kinds of groups do bison live in?

✔ At what time of day are bison most active?

✔ How often do bison reproduce?

✔ What is the history of the bison in the United States? How many bison once roamed the Great Plains? Why did they disappear?

✔ Why were they so important to Native Americans?

✔ What is the role of the bison in the prairie ecosystem?

5. Have each group create a bison poster, writing short articles and including drawings and diagrams to show what they have learned in their reading about this important grasslands animal.

6. When the groups are done with their research and have completed their posters, have each group share their posters with the rest of the class. Ask each group to be brief, only adding any new information that has not been previously mentioned

by groups that presented before them. Display the posters around the classroom.

7. At this point, explain to students that they will explore the many uses of the bison by Native Americans, to gain a better understanding of their great dependence on this animal.

8. There are 21 Bison Parts Cards. Distribute these to the student groups, giving several to each group. Have the groups brainstorm lists of everyday items they think Native Americans could have made from these materials.

9. Take out your Bison Mystery Box and walk from group to group, having groups take turns pulling out items until they are all distributed (so each group will have 3-4 items). Ask students to hypothesize what function this item represents and what part of the buffalo the Plains Indians might have used to make this item.

10. Have students conduct research, using books, magazines, and the internet to investigate their hypotheses. *Were they right or wrong? What other items did the Native Americans make out of that same part of the bison?* Ask students to find pictures or drawings of the actual items in their research to share with the class.

11. After all groups have completed their research, have them take turns presenting their findings to the group, sharing what their original hypothesis was, what they found, showing their Mystery Box items and pictures of the actual bison objects if they were able to locate them. As student groups present, have one student write up the items and uses on the board, having each group add to the growing class list. Be sure to leave time for the rest of the class to ask each group questions.

12. When all the groups have presented, return the Mystery Box items to the box. Ask the students what they learned. *Were they amazed by the variety of uses Native Americans had for the bison? Why do you think many Native American cultures consider the bison to be a sacred animal?* Stress that the near disappearance of bison was not a result of Native American hunting, but rather a policy of the U.S. government to exterminate the bison and disrupt Native American cultures. *Can you think of any animals we depend on in all or some of these ways today?*

Modifications for Younger Students (K-3)

Read one of the children's books on bison to the students. Ask them to name different characteristics of bison and ways Native Americans used the bison. Point out the different parts of the bison and ask them to think of ways Native Americans might have used those parts (i.e., skin for clothes, horn for dishes). Pull

individual items out of the Bison Mystery Box and discuss what each one represents and how the Plains Indians used the bison for this purpose.

Extensions

✔ Have students research and compare various hunting methods used by Plains tribes to hunt bison and how horses changed their hunting methods and cultures.

✔ Have students investigate the role of the bison in current tribal life. Research may be necessary. Contact:

InterTribal Bison Cooperative,
P.O. Box 8105
Rapid City, SD 57709
(605) 394-9730

Assessment

Have students write a journal entry, a newspaper article, or a story describing what might have happened after a bison hunt and how several everyday items were made from the bison that were caught.

WORKSHEET

BISON PARTS CARDS

HORNS	SKULL	BRAINS
MUSCLES	HAIR	HOOFS
RAWHIDE	BUCKSKIN	BONES
STOMACH	RAWHIDE	TAIL
FAT	TEETH	CHIPS (dung)
MEAT	BLOOD	BLADDER
TENDONS	BEARD	TONGUE

REBIRTH ON THE GREAT PLAINS

In bringing back bison to their tribal lands, Native Americans are also restoring their own cultural health

Excerpted from National Wildlife***, April/May 1998***

A 13-year-old Winnebago Indian boy—call him Eddy—is winding wire from an electric fence onto a spool, using a big handle for leverage. He is not the most enthusiastic of winders and when he does put out some effort, he causes a tangle.

"You're messing it up," says another boy, hauling in the wire by hand to help, "But then, you can't even break into a house right."

Eddy got busted for a minor burglary here on the Winnebago Reservation in northeastern Nebraska, and a tribal court sentenced him to perform several weeks of labor on this Winnebago bison refuge. The remainder of the work crew is a mix of court-case kids and boys earning wages in a summer youth job program. Today, the group also includes me, though as the July afternoon swelters toward 95 degrees I'm

National Wildlife

having second thoughts about the wisdom of volunteering. I am a wildlife biologist. What am I doing at the edge of a cornfield pulling out fence posts and wire with teenage delinquents?

As if to remind me, a burly bull bison, or American buffalo as the creature is often called, appears with several smaller companions on a small rise behind us. "That's the biggest, baddest guy in the herd," the boys tell me, edging away toward some trees. The Winnebagos call him Mike Bison, after the notoriously short-tempered boxer, Mike Tyson. But the bull proves to be only curious. All the bison are. Removing the old fence will expand the pasture for this herd of 50 animals to some 200 acres.

The animals look eager to explore the new, ungrazed section of tallgrass and prairie coneflowers. I'm here exploring, too, traveling cross-country to learn more about some important modern developments in the ancient relationship between Indians and bison.

Numbering 50 million or more, Bison bison once thronged across the whole of North America's Great Plains. A slightly larger subspecies known as wood buffalo inhabited eastern woodlands and portions of Canada's subarctic as well. However, commercial slaughter for meat and hides, which the U.S. military encouraged to destroy the Indians' food supplies and hasten their conquest, left fewer than 1,000 bison in the United States by the end of the nineteenth century.

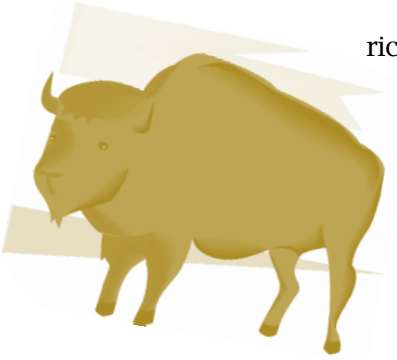
Many of those surviving animals were living in captivity. The only free-ranging herd of bison south of Canada was holed up deep within America's first national park, Yellowstone. There, a public furor erupted not long after the park was established in 1872, after word got out that poachers were killing bison. Park officials soon initiated stronger measures to protect the creatures.

Today, nearly 350,000 bison are found in the United States, mostly on privately owned lands where many of the animals are being raised for a growing, $500-million-a-year market in buffalo meat and hides.

For many Native Americans, efforts such as the Winnebago Reservation project take on extra meaning these days because they are part of a growing movement to restore bison to tribal lands across the country. Besides improving the animals' future, such projects are designed to help heal and strengthen Indian cultures for which the shaggy herds were long a mainstay.

"The bison always took care of us," says Louis LaRose, a former member of the Winnebago Tribal Council and interim president of the reservation's community college. "Now it is our turn to take care of them. They are a symbol of our strength and unity. As we restore them to health, we restore a healthy culture for ourselves. I see the rebirth of the buffalo and the rebirth of Indian people taking place together."

Each day on the job at the Winnebago pasture begins with a prayer, usually led by LaRose, who helped establish this bison herd in 1994. He lowers his eyes toward the rich, loamy earth and intones: "Grandfather [Great Spirit, Creator], we ask you to help these young men



REBIRTH ON THE GREAT PLAINS

understand their role in bringing back the buffalo. Grant that they may see the lessons of the herd—how the buffalo take care of themselves and help each other."

LaRose makes sure the group spends time simply observing the small herd. I hear him pointing out aspects of bison maternal care and other social relationships, hoping his listeners will begin to ponder the value of being part of a larger, functioning society. LaRose also passes along a bit of wildflower identification and other natural

history lessons. As he puts it, "I try to get these little 'coyotes' excited about education without scaring the hell out of them." He uses the bison, a few of which will be culled for meat following a ceremony of thanksgiving, to teach awareness of the value of a healthful diet.

Despite its relatively small size of about 120 square miles, the Winnebago Reservation has already set aside several small wildlife reserves where deer and game birds prosper. LaRose hopes to one day link those areas together with an expanded bison range. How large might the herd become? "As large as I can get it," he replies.

The Winnebago Nation is one of 45 tribes that have joined the InterTribal Bison Cooperative (ITBC), an organization founded by Native Americans in 1990 to assist and coordinate efforts to bring bison back to Indian lands. Members' herds already add up to nearly 9,000 head. And with more than 13 million acres under tribal ownership nationwide, the potential is enormous—not only for the bison but for fritillary butterflies, prairie fringed orchids, vanishing swift foxes and other species that rely on the same kinds of habitat. This is what Indians really mean when they speak of the Buffalo Nation: the whole, wonderfully diverse array of flora and fauna that revolves around grazing, trampling, wallowing, dustbathing, and constantly moving herds.

A prime example of bison ecosystem restoration is underway on the lands of another ITBC member, the Fort Belknap Reservation of the Assiniboine and Gros Ventre tribes in northcentral Montana. Frontiersmen once described a single mass of bison milling from this terrain to a point 150 miles east. They were a portion of the great northern herd, the last to be extinguished. The end came during the 1870s. Less than a decade later, half the Assiniboine people had starved to death.

"No man living here today has the wealth we had before the destruction of the buffalo," says Charlie Ereaux, who teaches cultural values at the Fort Belknap Reservation. "They were our food, our house, our tools, our pharmacy, our spiritual dignity. They were our freedom."

In 1974, reservation leaders reestablished a small bison herd that has since grown to more than 250 animals. Roaming 10,000 acres, the herd produces nearly 100 calves per year.

Fort Belknap is northern plains country—high, wide and windy shortgrass prairie, dominated by

blue grama grass and buffalo grass, with snowcapped peaks on the distant horizon. The heart of the current buffalo range is Snake Butte, a prow of dark, volcanic rock where prairie falcons nest and pronghorn seem to soar just as effortlessly across the ground. It is a favorite site for vision quests, in which tribal members seek a spiritual mentor from among the wild creatures. According to traditional Native American beliefs, animals are not lower life forms than humans but rather other "people" with different kinds of powers than ours—equals in the great circle of life.

Not far from one edge of the butte, I find most of the bison. In their midst is a pickup truck containing Roberta Johnson, who is leaning out the window with binoculars and taking notes on the animals' behavior. Over a background of grunts, rumbling growls and the thud of heavy hooves, I hear her say, "The herd is heading into the wind, probably to keep the bugs off. As usual, the leader is one of the cows. I notice more of the bulls sniffing around the females lately. You can tell that the mating season isn't far off."

Johnson is one of 13 tribal members investigating various

natural resources as part of an environmental studies program recently established through the Fort Belknap community college. From time to time, the Assinibone and Gros Ventre conduct buffalo tours for the public. Hopes to expand ecotourism go hand in hand with an ambitious plan to revitalize the wild prairie community. In autumn of 1997, Fort Belknap became the first reservation to reintroduce the most endangered mammal of the American plains, the black-footed ferret.

With Tim Vosburgh, a biologist employed by the tribes, I look over prairie dog towns at the ferret release site. He shows me mountain plovers, which prefer to nest in the open, insect-rich habitat created by the rodent colonies, and burrowing owls, which rear their young right in the prairie dogs' holes. Both species have become disturbingly rare in parts of the West as prairie dogs continue to undergo drastic declines due to poisoning programs and other problems.

Later, we are joined by Mike Fox, the head tribal biologist at Fort Belknap, who notes that his vision of restoration extends far beyond the current bison pasture. "I hope we can add at least another 40,000 acres," he says, "most of it from a tribal ranch now being used for cattle. Beyond that, well, we've got 400,000 acres here." The reservation is connected to U.S. Bureau of Land Management property and that leads into the Charles

M. Russell National Wildlife Refuge along the Missouri River. "Who knows?" adds Fox. "We might have a real, migratory bison range going one day."

Back at tribal offices in the town of Harlem, Poncho Bigby, the director of natural resources, tells me, "I have a stressful job dealing with tribal, state, and federal agencies. Sometimes, when I get overwhelmed, I go out to be with the buffalo. They take the burden from me. I can't explain it. When whites exterminated the herds, they didn't just take away our grocery store. They annihilated our church."

In the past, spirituality pervaded almost every aspect of Native American life and of all the animals in their domain on the Great Plains, bison probably received the most prayers. The hefty, hoofed creatures were never viewed by the Indians as a commodity, but rather as a powerful race of beings that chose of its own accord to provide the things people need to live. Traditionally, Native Americans used bison to produce everything from meat and clothing to glue and toys for their children. Through special pacts, many tribes allowed Indians living west of the Great Divide, such as the Nez Perce, to journey over the mountains each year to hunt the herds.

Nearly wiped out along with the bison, the Indians, too, ended up confined to little islands of their former territory. At one time, Indians that left their reservation were captured and jailed or even killed.

Yellowstone bison have a special place in the heritage of all Americans, for those animals represent the only continuously surviving wild herd of the animals left in the nation. A century ago, they numbered just twenty-five. In recent decades, the Yellowstone herd increased to nearly 4,000. But as the animals roamed in search of more winter food, some inevitably moved beyond park boundaries. Their dispersal was speeded along by the thousands of snowmobiles permitted to use park roads in winter; the machines pack down hard routes across the snow, allowing bison to cover long distances more readily than in the past.

The NWF scientist considers the Indian view of nature "an antidote to rhetoric that says the needs of wildlife conflict with those of people." I recall my conversation with Charlie Ereaux at the Fort Belknap Reservation, "You will not be healed until you come back in harmony with all of life," he told me. "Our medicine people say this and I've come to realize that it is true."

That notion is at the core of the current efforts by the Winnebago and other tribes to restore their cultural ties with bison. "As we try to solve the controversy in Yellowstone," says Torbit, "perhaps the time has come for all Americans to learn a few things from the original buffalo experts—the Indians—about where animals belong in our lives." ■

Here's some of the coolest stuff about what happened when buffalo ruled the continent.

WHEN BUFFALO RULED

BY CAROLYN DUCKWORTH
Ranger Rick, July 1998

HOW MANY?

A man traveling through Kansas in the 1800s wrote about the buffalo he saw there:

" … the country was black or rather brown with them as far as one could see… . It was impossible to estimate the number, but there were many, many thousands of them…"

Yes, and there were many millions of them all across the country. Buffalo roamed in nearly every state from the Rockies to the Appalachian Mountains.

RUNNING WITH THE BUFFALO

Here's what an army man once said:

"… it was very dangerous to be caught in and mixed up with the stampede. The buffalo would close up and become one solid mass of moving animals. The noise resembled low rumbling thunder and the earth trembled under their pounding hooves."

HOW TO HUNT BUFFALO

Indians lived among the buffalo for thousands of years. To hunt them they would:

- wear snowshoes and chase the animals into deep snowdrifts.
- wear wolf skins, so they could crawl close and then stab the buffalo with spears
- chase buffalo over cliffs. These places were called "buffalo jumps."

RANGER RICK

WORKSHEET

Hundreds of buffalo were killed at a time.

After Europeans brought horses to North America, Indians learned to ride the horses to hunt buffalo.

ALMOST GONE

At the start of the 1800s, millions of buffalo roamed the middle of America. In the mid-1800s, though, the climate got warmer and drier, and the grasslands changed. During those years, many buffalo died. At the same time, the U.S. government needed more land for settlers and went to war with the Indian nations.

Some people in the government thought they could defeat the Indian people by starving them. So they hired men to kill thousands of buffalo just for their hides and some of their meat. The rest of the meat was left to rot. Many other people also killed buffalo.

By the late 1800s, only a few hundred buffalo were left. Most of these animals were protected on ranches and farms.

BIG BUFFALO COMEBACK

At the start of the 1900s, fewer than 50 wild buffalo survived in Yellowstone National Park. Other buffalo, protected on farms and ranches, were added to the Yellowstone herd. The herd grew. Today, about 2000 wild buffalo live in Yellowstone. About 10,000 more live on other public lands in North America.

Many more buffalo are being raised on ranches and Indian lands for food. Are there buffalo burgers for sale near you?

BISON OR BUFFALO?

The scientific name for the buffalo is Bison bison, and most scientists call the animal "bison." That's because other animals in Asia and Africa are called buffalo. Those buffalo are different from North American bison. But in America, it's OK to call bison "buffalo."

TRIBAL ANIMAL

For many Indian people, the buffalo is still a sacred and important animal. Their religions and stories revolve around the buffalo. Buffalo symbols decorate shields, teepees, and many other belongings. And many tribes hold ceremonies to honor the buffalo.

Almost 50 tribes have gotten together

RANGER RICK

to help one another raise healthy buffalo on their lands. Their group is called the InterTribal Bison Cooperative.

MORE BUFFALO

Buffalo designs show up in lots of places. Do you recognize the one on the right? It's the symbol of the Buffalo Bills football team. You'll also find buffalo cookie cutters, stuffed animals, lamps, blankets, posters, jewelry, and even money. Have you ever seen a buffalo nickel like the one on page 65? Can you find any other buffalo around your house, school or neighborhood?

TROUBLE AGAIN

In Yellowstone, winter visitors drive snowmobiles along roads of hard-packed snow. Buffalo

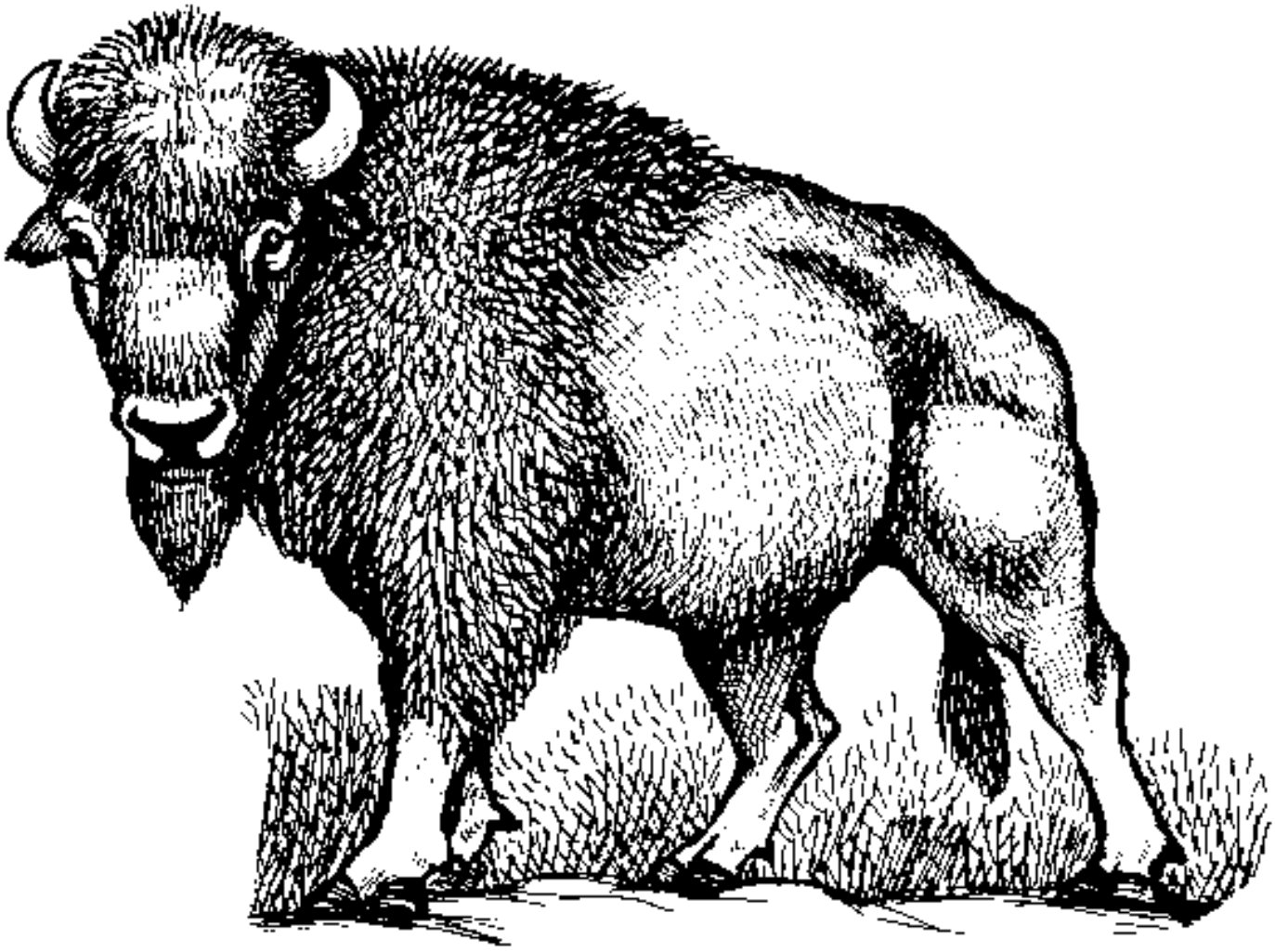
walk these roads too. It's easier to walk the roads than to plow through deep snow. And the buffalo can travel farther to find food. That's great news, right? Not really.

The snow-packed roads may make it easier for buffalo to wander closer to the park boundaries. And that can be bad news. Why? Because some ranchers in Montana are afraid that their cattle will catch a disease from the roaming buffalo. So the state hires people to shoot any of the buffalo that leave the park.

Many people are upset about this. The InterTribal Bison Cooperative is working to solve the problem along with the National Wildlife Federation. Together they're trying to find a way to protect both the buffalo and the cattle. ■

WORKSHEET

AMERICAN BISON



TEACHER REFERENCE SHEET

BISON PARTS AND USES