

South Dakota Places

South Dakota State Historical Society Education Kit

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Goals and Materials

Goals

Kit users will:

- identify specific South Dakota places such as Mount Rushmore, the Badlands, the Glacial Lakes region, DeSmet, the Capitol, Corn Palace and Missouri River dams.
- develop map reading skills
- identify state symbols of South Dakota
- understand the variety of animal habitats that exist within the state
- gain knowledge and experience in learning from objects

Materials

This kit contains:

- | | |
|-------------------------------------------------------|----------------------------------------|
| 1 Wall Drug glass | 1 petrified wood sample |
| 1 Mount Rushmore model | 2 mammoth tusk fossil samples |
| 1 Mammoth tooth replica | 1 Indian corn sample |
| 1 Crazy Horse scale model | 1 SD Flag with "Sunshine State" |
| 1 hardbound copy of <i>Little Town on the Prairie</i> | 1 SD flag with "The Mt Rushmore State" |
| 1 Northern pike fish mold | 1 Wind Cave map |
| 1 Carp fish mold | 1 Jewel Cave map |
| 1 Walleye fish mold | 1 National Forest regional map |
| 1 Bluegill fish mold | 6 SD highway maps |
| 1 Perch fish mold | 27 photographs |
| 1 Rainbow trout fish mold | 18 SD symbol photographs |
| 1 muskrat track mold | 18 SD symbol clue cards |
| 1 pronghorn track mold | 6 fish identification sheets |
| 1 mule deer track mold | 7 water user cards |
| 1 turtle shell | 8 habitat posters |
| 1 black-footed ferret figurine | 24 water share cards |
| 1 coyote figurine | 21 animal description cards |
| 1 prairie dog figurine | |
| 1 porcupine figurine | |
| 1 woolly mammoth figurine | |
| 1 mountain lion figurine | |
| 1 beaver figurine | |
| 1 raccoon figurine | |
| 1 badger figurine | |
| 1 skunk figurine | |
| 1 elk figurine | |
| 1 bighorn sheep figurine | |
| 1 bison figurine | |
| 1 jackrabbit figurine | |
| 1 white-tailed deer figurine | |
| 1 red fox figurine | |
| 1 cottontail rabbit figurine | |
| 1 mountain goat figurine | |

Teacher Resource Paper

South Dakota has a variety of natural landscapes, places that have been changed by people's vision and work, and sites that have been built where nothing like them existed before. All these places give the state strong claim to being, as one state slogan said, "the land of infinite variety." This paper provides information on many of the great places in the state, but is not a complete list. Every community, county, or area in the state has great local places, from a favorite swimming hole to a local park.

South Dakota Geography

South Dakota is divided into east and west by the Missouri River. East river geography includes glacial lakes, rolling prairies, and rich river valleys. West river has vast grasslands, rugged badlands, and the Black Hills.

Glaciers formed the landscape of eastern South Dakota. The most recent glaciers to cover the state started about 30,000 years ago and melted back about 10,000 years ago. Evidence of glaciers ranges from small scratches on rocks to major landforms such as the Coteau des Prairies. The Coteau des Prairies, a highland near the state's eastern border, rises about 1,200 feet above the Minnesota and James River valleys on either side. The glaciers left sediments averaging 450 feet thick throughout the Coteau. Nearly all of the hills and ridges in eastern South Dakota are glacial moraines, or accumulations of sediment deposited by the ice. Glacial lakes were formed where large blocks of ice were trapped and eventually melted.¹

The Missouri River flows where it does due to glaciers. The ice sheet that covered eastern South Dakota reached as far as the river. The ice blocked the Cheyenne and Bad Rivers, forcing their waters to flow along the edge of the ice sheet. When the ice retreated, the water continued to flow along this course, forming the Missouri as we know it today.²

Glacial ice sheets did not touch the land west of the Missouri River. As a result, the west river region is higher, and does not have the deep, rich topsoil of the glaciated east river area. The terrain of western South Dakota was shaped by rivers carving valleys into soft shale.³ The landscape has rolling plains, canyons, and steep flat-topped hills called buttes. In southwestern South Dakota, the same geological forces that created the Rocky Mountains pushed up the Black Hills. These forces caused the earth to buckle and thrust a great block upward. Erosion has worn the Hills down to their present shape.⁴ The badlands, southeast of the Black Hills, were formed by a combination of geologic and climatic factors including having soil formed by sand, clay and volcanic ash, and rapid erosion by running water.⁵

Four Kinds of Great Places

For the sake of organization, this paper puts South Dakota places into one of four categories. Some of South Dakota's great places are completely natural. These include the Black Hills, the Badlands, grasslands, glacial lakes, and landmarks like Spirit Mound and Falls Park. Other places are natural places that have been changed by the vision and work of people. These include Mount Rushmore, Crazy Horse Monument, and the Missouri River dams and reservoirs. A third category covers sites that have been completely built by people. The state Capitol, Dinosaur Park, Wall Drug

¹ Jay P. Gilbertson, *Glaciers in South Dakota*, <http://www.northern.edu/natsource/EARTH/Glacie1.htm>.

² Ibid.

³ Edward P. Hogan, *The Geography of South Dakota* (Sioux Falls: Center for Western Studies, 1998), 11.

⁴ Ibid. 25.

⁵ Ibid. 24.

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and the Corn Palace fall into this category. Events are listed in a separate category. Some South Dakota events are the State Fair, Sturgis Motorcycle Rally, and Custer Buffalo roundup.

Natural Places

Black Hills

The Black Hills started to rise about 62 million years ago. By about 37 million years ago, the Hills had reached their present size and shape. The forces that formed the Hills and other mountains in central Wyoming and Montana were related to the collision of North America with the floor of the Pacific Ocean.⁶ About two-thirds of the Hills are in South Dakota with the remaining third stretching into Wyoming. The area is about 120 miles long from north to south and 50 miles wide. The highest point in the Hills, and in the entire state, is Harney Peak. It reaches 7,240 feet above sea level.

The Lakota called the Hills *paha sapa* or black hills because they looked black when viewed from a distance. Traditional hunting grounds, to the Lakota the Hills were sacred ground. Fur traders had occasionally explored the Hills, but most avoided the area.⁷ The Lakota were promised ownership of the hills by the Fort Laramie Treaty of 1868. Rumors of gold in the Hills had circulated for years. The Custer Expedition of 1874, confirming the rumors of gold, brought a rush of hopeful miners to the area. Despite the efforts of the army to keep the miners out, the task was impossible. In the spring of 1875, Lakota leaders were invited to Washington to try to resolve ownership. They refused all monetary offers. Some Lakota chiefs were forced to sign away ownership rights by the withholding of rations, but three-fourths of the adult men of the tribe never agreed. The ownership of the land is still in question.⁸

The beauty of the Black Hills made them a natural draw for tourists. Both Needles Highway and Iron Mountain Road are part of the Peter Norbeck National Scenic Byway, which runs through the heart of the Black Hills. Peter Norbeck served as Governor of South Dakota from 1917-1921, and as Senator from 1921 until his death in 1936. A staunch conservationist, Norbeck helped preserve thousands of acres in the Hills. Needles Highway runs through a landscape of tall granite spires. When Norbeck first proposed building the road, engineers said it was impossible. 150,000 pounds of dynamite proved them wrong and the road opened in 1922. Travelers pass by the Needle's Eye, a 40-foot spire with a three-foot opening at the top. Norbeck designed Iron Mountain Road to fit into the natural landscape of the Hills. The road often doubles back on itself in pigtail loops as it climbs the mountain. Three tunnels along the road each offer a framed view of Mount Rushmore. The Civilian Conservation Corps built the wooden pigtail bridges in the 1930s.

Wind Cave National Park

Located north of Hot Springs, Wind Cave is the fourth-longest cave in the world with more than 110 miles of mapped passageways. It is considered the site of origin for several American Indian tribes, including the Lakota. The cave was discovered in 1881 when Tom and Jesse Bingham heard wind whistling through a small hole in the rocks. The rushing wind sound gave the cave its name. Wind Cave has the world's largest display of a geologic formation called boxwood – thin, honeycomb-shaped calcite crystals. About a million people visit Wind Cave National Park each year.⁹

Jewel Cave National Monument

The second-longest cave in the world, Jewel Cave has more than 135 miles of mapped passageways. The cave gets its name from its calcite crystals. The crystals glitter and shine when

⁶ John Paul Gries, *Roadside Geology of South Dakota* (Missoula, MT: Mountain Press Publishing Company, 1996), 217.

⁷ Jim Pisarowicz, *History of the Black Hills* (http://www.nps.gov/wica/History_of_the_Black_Hills.htm, 2006)

⁸ Ibid.

⁹ SD Tourism, *Wind Cave National Park*, <http://www.mediasd.com/facts/windcave.asp>

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lighted. Located west of Custer, the cave was discovered in 1900 by Frank and Albert Michaud. Nine species of bat make their home in the cave. It houses one of the largest known colonies of Townsend's big-eared bats.¹⁰

Bear Butte State Park

An isolated mountain in the northern Black Hills, Bear Butte is a volcano that never erupted. Viewed from the ground it looks like a reclining bear. Bear Butte is sacred ground to the Cheyenne and Lakota people. They go to Bear Butte to pray and meditate, often leaving bits of cloth or pouches of tobacco hanging in the trees and bushes as prayer gifts to the Creator. In recent years, those who hold Bear Butte sacred have united to keep out the shooting ranges, bars, and commercial campgrounds that threaten the quiet and reverence of their place of solitude.

Bear Butte was named a South Dakota State Park in 1961. It was added to the National Register of Historic Places in 1973. Summit Trail takes hikers to the top of Bear Butte where they can get a view of four states.

Badlands National Park

Colorful buttes, gorges and spires create a unique landscape in southwestern South Dakota. The Lakota people called the area *mako sica* or land bad. In 1939, a portion of the Badlands became a National Monument. In 1978, an area of 244,000 acres was named a National Park. Seventy million years ago, the Badlands were covered by an ocean. Eventually the water drained and sediment settled, leaving soft shale rock. Jungles grew up and died away. Succeeding eras of jungle, forest, and flood laid down new layers. Erosion reveals the different-colored layers – purple, yellow, tan, red and other colors. Each layer represents a period in geological history. At first glance, the Badlands may look barren, but over fifty kinds of grasses grow there. Bison, coyotes, bighorn sheep, mule deer, prairie dogs and many birds make their home in the Badlands. The area is the top reintroduction site for the black-footed ferret, the most endangered mammal in North America.¹¹

The Missouri River

The Missouri River runs about 2,500 miles from its Montana headwaters to its junction with the Mississippi River. The Missouri is one of the longest rivers in the United States. In South Dakota, the river enters the state near Pollock and flows south. In south-central South Dakota, the river turns southeast, forming the state boundary with Nebraska. Seven major rivers and streams in the state feed the Missouri - the Grand, Moreau, Cheyenne, Bad, White, James, and Big Sioux rivers.

Before being modified by dams, the Missouri was a river of shifting channels, muddy water, and floods. The "Big Muddy" floods were spectacular, causing much damage. For the river ecosystem, flooding was important because it allowed for the exchange of nutrients between the flood plain and the river. Additionally, periodic floods replenished backwaters and sandbar habitat.¹²

In South Dakota, four large dams hold the Missouri. The reservoirs created by the dams serve several purposes. Hydroelectric power, flood control, navigation, municipal water, irrigation, fish and wildlife habitat, and recreation are all uses of the Missouri today. Two sections of the river are part of the Wild and Scenic River system. These are a 45-mile stretch below Fort Randall Dam flowing into Lewis and Clark Lake and a 58-mile section below Gavin's Point Dam. These sections of the river retain much of their untouched beauty.

¹⁰ SD Tourism, *Jewel Cave National Monument*, <http://www.mediasd.com/facts/jewelcave.asp>

¹¹ SD Tourism, *Badlands National Park*, <http://www.mediasd.com/facts/badlands.asp>

¹² Clifton Stone, *The Missouri River*, <http://www.northern.edu/natsource/HABITATS/Missio1.htm>.

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National Grasslands

South Dakota has three National Grasslands in the western half of the state. Surrounding the Badlands in southwestern South Dakota, Buffalo Gap National Grassland has over 591,000 acres of prairie, sage, and other semi-arid plants. It is the largest national grassland in the Rocky Mountain region. Buffalo Gap is home to prairie dogs and other small mammals, along with snakes and birds of prey. Grand River National Grassland is located in northwest South Dakota. Its 155,000 acres have rolling hills, river breaks, and some badlands. Wildlife on Grand River includes deer, antelope, grouse, geese, coyotes, fox, prairie dogs, and many other species. Fort Pierre National Grassland, just south of Pierre, has 116,000 acres of mixed grass prairie. It is one of the few public land areas that have a population of greater prairie chickens.¹³

National Wildlife Refuges (NWR)¹⁴

The Karl E. Mundt and Lake Andes National Wildlife Refuges are located in the south-central part of the state. Karl E. Mundt NWR houses 100 to 300 bald eagles, and is one of the most important bald eagle winter roosts in the country. Ducks rely on the refuges to provide habitat for raising their young. Waterfowl are most common, but other species including pheasants, hawks, deer, and turtles also make their home on the wildlife refuges.

The 16,410-acre Lacreek National Wildlife Refuge was established in Bennett County in 1935. Habitats on Lacreek NWR include sandhills, meadows, fresh-water marshes, and tallgrass and mixed grass prairies. Lacreek has one of only two nesting colonies of American white pelicans in the state. It is also the home of the high plains trumpeter swan population, which now has more than 350 birds.

Sand Lake National Wildlife Refuge north of Aberdeen was also established in 1935. Its 21,498 acres feature open lakes and wetlands, grasslands, woodlands, and croplands. Sand Lake NWR has been listed as one of the top fifteen birding sites in the country. Each year more than 75,000 people visit Sand Lake NWR. Wildlife observation, education, photography, hunting, and fishing are all popular activities. Sand Lake NWR has over 266 bird species, 40 mammal species, and a variety of fish, reptiles, and amphibians. During spring and fall migration, millions of migratory birds rest and feed at Sand Lake NWR.

"Waubay," means "a place where numbers of birds make their nests" in the Dakota language. The Waubay National Wildlife Refuge in northeastern South Dakota has 4,650 acres of wetlands, native tallgrass prairie, and bur oak forest. It provides habitat for more than 100 species of waterfowl, songbirds, and upland game birds. Mammals on the Waubay NWR include white-tailed deer, coyote and the pygmy shrew. Lake levels on Waubay NWR have risen as much as fifteen feet in recent years, changing the nature of the wetlands. Once shallow waters ringed with cattails are now open-water lakes with excellent sport fishing. American white pelicans and wood ducks are more common than the wading birds that once made the refuge their home.

Glacial Lakes

Between the Minnesota River valley and the James River valley along the South Dakota-Minnesota border is the Coteau des Prairies. This highland is composed of glacial sediments, left behind as glaciers moved into the area and then receded. The ice sheet entered the state from the northeast and moved as far west and south as the present Missouri River. As it moved, the great weight of the glacial ice carved into the earth. When the ice receded, it left behind great piles of sediment pushed into ridges called moraines. The hills, ridges, and knolls of the glacial lakes region

¹³ U. S. Department of Agriculture, *Rocky Mountain Region National Forests & Grasslands* (U.S. Forest Service map, 2005)

¹⁴ US Fish & Wildlife Service, *Refuge List by State: South Dakota*, <http://www.fws.gov/refuges/profiles/ByState.cfm?state=SD>

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on the Coteau des Prairies are glacial moraines. When the glacier receded for the last time, it left behind vast amounts of water. This water filled potholes, lakebeds, and streams. There are about 10,000 glacially created water basins in eastern South Dakota, ranging from large, deep lakes to small, shallow sloughs.¹⁵ Among the lakes are Enemy Swim, Pickerel, Waubay, Kampeska, Roy, and Poinsett. The glacial lakes provide excellent waterfowl and fish habitat and good hunting and fishing. They also provide places for swimming, boating, hiking, and skiing.

Sica Hollow State Park¹⁶

Fifteen miles northeast of Sisseton is a deep ravine with haunting qualities that inspired legends among the Sioux. They told of mysterious happenings in the hollow, calling it *sica* meaning bad or evil. Gurgling reddish bogs in the hollow were thought to be the flesh and blood of ancestors. Swamp gasses bubbling up from mud holes, stumps glowing in the dark, and gurgling waterfalls provide fodder for legends and superstitions. Sica Hollow became a state park in 1968. The park's 807 acres of steep gullies are home to a rare hardwood forest and diverse wildlife. Sica Hollow has fifteen miles of trail for horseback riding, hiking, and cross-country skiing. A half-mile walking trail, the "Trail of Spirits" was designated a Registered National Recreation Trail in 1971.

Falls Park

The falls that give Sioux Falls its name are located in Falls Park. The Sioux Falls formed when a glacial dam broke upstream, releasing a flood that swept away huge chunks of bedrock and creating a gorge with angular surfaces. The placid Sioux River cascades over quartzite ledges and drops more than 80 feet in less than a quarter of a mile.¹⁷ In the early days of Sioux Falls, a flour mill and other businesses used the water power from the falls. The falls also generated a small amount of electricity. Today, Falls Park is estimated to be the most visited place in Sioux Falls.¹⁸ Floodlights highlight the cascading water. An information center with a 62-foot-high observation deck provides a panoramic view of the falls and the city.

The Dells, Palisades, & Devil's Gulch

The Big Sioux River and its tributary, Split Rock Creek, have created some unusual landscapes in southeastern South Dakota. The Dells are a series of gorges and narrow valleys cut by the Big Sioux River out of quartzite south of Dell Rapids. South of the Dells, the Palisade formations formed when Split Rock Creek cut through glacial cover during the Ice Ages and entrenched itself into Sioux quartzite.¹⁹ The 50-foot vertical cliffs formed are now part of Palisades State Park. A flour mill with a huge water wheel once perched on the bluff overlooking the park. The area was also the site of a short-lived silver rush in 1886. The ore proved to be low quality, and the miners soon pulled up stakes. Devil's Gulch, also located along Split Rock Creek near Garretson, is part of Wild West lore. Outlaw Jesse James allegedly jumped his horse over the 20-foot gash between the sheer walls of Devil's Gulch in 1876 when a posse from Northfield, MN was close behind. A footbridge over Devil's Gulch lets visitors get a view of the supposed jump site.²⁰

¹⁵ Dennis Unkenholz, email, 14 November 2006.

¹⁶ SD Game, Fish, and Parks, *Sica Hollow State Park: Where Legends Come Alive*, <http://www.sdgame.com/Parks/Regions/GlacialLakes/SicaHollow.htm>

¹⁷ Gries, *Roadside Geology*, 34.

¹⁸ City of Sioux Falls, *Falls on the Big Sioux River*, http://www.siouxfalls.org/Parks/Parks/Falls_Park.aspx

¹⁹ Gries, *Roadside Geology*, 33.

²⁰ SD Game, Fish, and Parks, *Palisades State Park*, <http://www.sdgame.com/Parks/Regions/Heartland/Palisades.htm>.

Spirit Mound

Eight miles north of Vermillion stands a lone hill called Spirit Mound. In their journals, Lewis and Clark tell about climbing the hill. The Yankton people had told them about it, warning them that small devils lived on the hill. Lewis and Clark saw no devils, but did get a spectacular view of the surrounding prairie with its abundant wildlife. In 2001, Spirit Mound became a state park. The area around the mound has been restored to native prairie, and a walking trail takes visitors to the top.

Natural places changed by people

Mount Rushmore

Carved on a granite peak named for Charles Rushmore, a mining company attorney, Mount Rushmore is one of the most recognizable monuments in the world. South Dakota historian Doane Robinson had the idea for a large rock carving as a visitor attraction in the Black Hills in 1923. The idea made little headway until Robinson convinced sculptor Gutzon Borglum to take on the project.²¹

Four presidential faces were carved on the mountain. George Washington led the fight to win independence from Great Britain and served as the country's first president. Thomas Jefferson wrote the Declaration of Independence. While serving as president, Jefferson purchased the Louisiana Territory, doubling the size of the country. Abraham Lincoln held the nation together during the Civil War. Theodore Roosevelt led the nation in the early 20th century.

In 1927, President Calvin Coolidge officially dedicated the monument. Over the next 14 years, workers chiseled and blasted over 450,000 tons of stone to form the four 60-foot faces. The noses on the faces are about 20 feet tall and the eyes are 11 feet wide.²² Borglum used a scale model as a guide to supervise the work. Following Gutzon Borglum's death, the faces were completed in 1941 under the supervision of his son, Lincoln. Today, thousands of visitors from all over the world visit the four faces on the Shrine to Democracy.

Crazy Horse Memorial

A second great sculpture in the Black Hills started in 1948. One of Gutzon Borglum's assistants, Korczak Ziolkowski, began carving a monumental sculpture of Crazy Horse on a mountain north of Custer. The son of Polish immigrants, Ziolkowski was a self-taught artist. Lakota elders had chosen Crazy Horse as the subject for the carving because he symbolized American Indian spirit, pride and courage.²³

Ziolkowski arrived at the site for Crazy Horse with little money. He lived in a tent while building a log cabin, digging wells, and building a 741-step staircase to the mountaintop. Ziolkowski worked alone drilling the mountain and blasting off tons of rock. After Ziolkowski married Ruth Ross in 1950, the memorial became a family project for them and their ten children. Ziolkowski never accepted federal funding for the sculpture, depending instead on private donations. He continued carving Crazy Horse until his death in 1982. His wife and children continue the work today.

Over seven million tons of rock has been removed from the mountain to reveal the 90-foot high face of Crazy Horse, completed in 1998. All four faces on Mount Rushmore would fit inside Crazy Horse's head. When completed, Crazy Horse will be 563 feet high and 641 feet long.

²¹ National Park Service, *Mount Rushmore National Memorial*, <http://www.nps.gov/moru/historyculture/people.htm>.

²² SD Department of Tourism, *Mount Rushmore National Memorial*, <http://www.mediasd.com/facts/mountrushmore.asp>.

²³ SD Department of Tourism, *Crazy Horse Memorial*, <http://www.mediasd.com/facts/crazyhorse.asp>.

Mammoth Site²⁴

Discovered by chance in 1974 during excavation for a housing development, the Mammoth Site is the world's largest Columbian mammoth exhibit and research center for Pleistocene studies. About 26,000 years ago, the Mammoth Site was a large sinkhole with warm artesian water and a muddy bottom. Lush vegetation grew along its banks even during cold weather. Mammoths entered the sinkhole to eat and drink. They could not climb the steep banks and were trapped. The sinkhole eventually filled up with sediment and hardened, preserving the mammoth bones. Scientists are still uncovering mammoth remains at the site. The remains of up to one hundred mammoths along with fossils other Ice Age animals may be uncovered. A climate-controlled building now covers the sinkhole.

The majority of fossils at the Mammoth Site are from the North American Columbian mammoth. Columbian mammoths stood almost fourteen feet high at the shoulder and weighed up to ten tons. They ate 700 pounds of vegetation a day and could live up to eighty years. Fifty-two Columbian mammoths have been found at the Mammoth Site. The remains of three woolly mammoths have also been discovered, making the Mammoth Site the first place where both species were found together. Fossils from other Ice Age animals found at the Site include those of the camel, llama, giant short-faced bear, wolf, coyote, and prairie dog.

Missouri River Dams and Reservoirs

The Missouri River provided both benefits and problems for the people and communities nearby. Early transportation, from bullboats to steamboats, used the river to move people and goods. Spring floods regularly inundated the area, causing major damage. A plan to harness the river passed Congress in 1944. The Pick Sloan Plan built six dams across the Missouri to control flooding, generate electrical power and provide irrigation. Four of the great dams were built in South Dakota.²⁵

Fort Randall Dam was the first built in the state, completed in 1954. Gavins Point Dam, near Yankton, was completed two years later. Oahe Dam, the largest of the Missouri River dams, was completed in 1962. It is one of the biggest rolled-earth dams in the world. Oahe Dam is 245 feet high with a 456-foot wide spillway. Big Bend Dam was the last of the four dams built in the state. Construction began in 1959 and the dam began operating in 1963.

All four dams created large reservoirs. Walleye, sauger, smallmouth bass, white bass, channel catfish, and northern pike are some of the game fish found in the reservoirs. Building the dams has had both positive and negative effects. Millions of acres were lost to construction and the filling reservoirs. Tribal lands were especially hard hit. Some communities had to be relocated to avoid the rising water. Today, in addition to electricity, the dams provide good drinking water to many South Dakota communities. Recreation along the river brings millions of dollars into the state each year.

Places completely built by people

Deadwood / Lead

Few towns embody the spirit of the Wild West more than Deadwood. A gold strike along Whitewood Creek in 1875 brought hundreds of miners to the area. Deadwood Gulch, another stream near Whitewood, saw major mining activity as well. The area was soon called Deadwood. Two miners, Fred and Moses Manuel, began looking for the gold vein that was the source for the gold in the streams. They filed on what would become Homestake Mine in 1876. A year later, the Manuels sold their claims to George Hearst for \$70,000. Hearst established Homestake Mining Company.

²⁴ Mammoth Site, *The Mammoth Site of Hot Springs, SD*, <http://www.mammothsite.com>.

²⁵ Martin Reuss and Charles Hendricks, *U.S. Army Corps of Engineers Brief History*, <http://www.usace.army.mil/history/brief2.htm>

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Deadwood was a wide-open mining town with a Wild West reputation fueled by gunfighting, gambling, and drinking. Notable character Wild Bill Hickok lived in Deadwood only a few weeks. A celebrated scout, lawman, and gunfighter, Hickok came to Deadwood to gamble. About a month after arriving, he was killed while playing poker in Saloon #10.²⁶

By 1880, underground hard rock mining replaced placer or surface mining. With Homestake as a driving economic force, Lead became the second largest city in South Dakota by 1905.²⁷ Homestake provided the area with economic stability during the Great Depression of the 1930s. Homestake was closed entirely during World War II. Many miners left the area or joined the armed services. In turn, many businesses were forced to close and the town nearly became a ghost town. After World War II, gambling was made illegal in Deadwood.

Homestake reopened following the war and economically sustained the area from 1950 to 1970. Lumbering provided economic growth as well. In the 1970s and 1980s, improved mining techniques and equipment reduced the number of workers needed to run the mine. Construction slowdowns hurt the lumber industry about the same time. Hard economic times hit Deadwood, especially during the winter months when tourism was slow.

In 1986, Deadwood citizens began lobbying for legalized gaming to stimulate tourism. Two years later, South Dakota voters approved a constitutional amendment that allowed limited gambling in the city of Deadwood. The return of gambling helped Deadwood recapture some of its Wild West reputation and brightened its economic picture. The entire town of Deadwood was designated a National Historic Landmark.²⁸ The town's extensive Victorian architecture is carefully preserved and stands as a link between the Wild West Deadwood of the 1800s and the community today.

Dinosaur Park

Today, seven dinosaurs look down on Rapid City from Dinosaur Park. The original five – the Apatosaurus (formerly called Brontosaurus), Tyrannosaurus Rex, Triceratops, Stegosaurus, and Anatotitan (formerly called Trachodon) – were built as a Works Progress Administration (WPA) project in the 1930s. The other two – the Protoceratops and the Dimetrodon – were added to the park years later. The Apatosaurus is the largest of the creatures, stretching over 80 feet. The sculptures are made of concrete on a framework of steel mesh over iron pipe.

The original idea for the park came from Dr. C.C. O'Harra, president of the South Dakota School of Mines and Technology in 1935. O'Harra had led early expeditions into the Badlands where dinosaur remains had been discovered. He hoped the sculptures in Dinosaur Park would help visitors connect with the prehistoric animals that had once lived in the area.²⁹ Dinosaur Park was placed on the National Register of Historic Places in 1990.

South Dakota State Capitol

South Dakota became a state in 1889. Pierre was the temporary capital. Being named the permanent capital would be an economic windfall for a community, so competition was intense. Elections were held in 1890 and again in 1904 to decide on the capital's location. Pierre won both elections, beating out several other towns including Huron, Mitchell, and Watertown.³⁰

²⁶ Adams Museum and House, *Deadwood History: Legendary Characters & Notable People*, <http://www.adamsmuseumandhouse.org/answers/wildbill.html>.

²⁷ Bob Lee, ed., *Gold, Gals, Guns, Guts: A History of Deadwood, Lead, and Spearfish, 1874-1976* (Pierre, SD: South Dakota State Historical Society Press, 2004), 238.

²⁸ City of Deadwood, *History and Gaming & Historic Preservation*, <http://www.cityofdeadwood.com>.

²⁹ U.S. Department of Interior, *National Register of Historic Places Application: Dinosaur Park*, Section 7 Page 3.

³⁰ SD State Archives, *South Dakota: Land of Vision, The "Great Capitol Fight" of 1904*, http://www.sdhistory.org/Exhibit4/arc_lov_capfight.htm.

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The permanent capitol was built between 1905 and 1910. The building is 114,000 square feet, 161 feet tall, 190 feet wide and 292 feet long. Built in the Classic Revival style, it has handcrafted woodwork, brass, and stonework. The ornate rotunda dome features marble balustrades and columns, and stained-glass skylights. Artisans came from all over the world to work on the building. Italian workers laid the terrazzo tile floor. According to legend, each Italian worker was given a special blue stone to place somewhere in the capitol floor as their personal signature. Only 55 of the 66 blue stones have been found.³¹ An annex was added to the north side of the capitol building in 1932. Other buildings have also been added over time. Today, there are sixteen buildings on the 115-acre capitol complex.

Cultural Heritage Center

The Cultural Heritage Center in Pierre houses the South Dakota State Historical Society. The center became the new home of the state museum and archives when the Soldiers' and Sailors' Memorial Building was outgrown and environmentally inadequate to protect museum and archival collections. Planned as a project for South Dakota's centennial in 1989, many towns lobbied to be the location for the Center. Pierre was chosen by the legislature because of its central location and the state capitol already being there. Completed in 1989, the 64,000 square foot Center's underground design makes it very energy efficient. It features an impressive facade of Milbank granite. The Center's grounds are covered in native prairie sod kept in its natural state.

The Museum of the South Dakota State Historical Society is located in the Cultural Heritage Center. Its permanent exhibit *The South Dakota Experience* tells the story of South Dakota from prehistory up to modern times. Exhibit highlights include the Verendrye Plate, a lead plate buried by French-Canadian explorers in 1743 above Fort Pierre. A walk-through tipi, sod house, and 20th-century bungalow are also featured. Visitors can listen to a creation story in Lakota, milk a model cow, watch clips from an early state fair and rodeo, and listen in on party-line telephone calls.

DeSmet, the Little Town on the Prairie

Author Laura Ingalls Wilder was twelve years old when her family moved to Dakota Territory from Walnut Grove, Minnesota in 1879. They moved to DeSmet, between Brookings and Huron, where Laura's father, Charles, worked for the railroad.³² The Ingalls homesteaded one mile south of town. Five cottonwood trees that Pa Ingalls planted are still growing on the land. Several of Laura's "Little House" books including, *By the Shores of Silver Lake*, *Little Town on the Prairie* and *The Long Winter* are set in DeSmet.

In 1971, the Laura Ingalls Wilder Pageant Society began doing a pageant based on Laura's books every summer. Visitors to DeSmet can tour the small surveyor's house the family lived in during their first Dakota winter, and the Ingalls house built in 1887. The surveyor's house went on the National Register of Historic Places in 1973. The Ingalls homestead was added to the register two years later.

Petrified Wood Park

Lemmon is a town with a petrified past. Located in northwestern South Dakota, the area had so much fossilized wood lying around that early residents thought little of it. A forest of huge Sequoia trees thrived in the area twenty million years ago. These trees could grow up to twenty feet in

³¹ SD Bureau of Administration, *On-Line Tour of the State Capitol*, <http://www.state.sd.us/state/capitol/capitol/tour/bltiles.htm>

³² *Huron Daily Plainsman*, "Laura Ingalls Wilder's Autobiography Relates Life of S.D. Pioneers," February 29, 1976.

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diameter and live hundreds of years. As the forest died, the wood in the trees gradually fused with sediment. The sediment hardened into rock, preserving the wood.³³

Ole S. Quammen, an amateur geologist, began collecting pieces of petrified wood in 1919. He began building a tourist park from the wood in 1930. Men were employed hauling tons of petrified wood to the park site in Lemmon. The park eventually had over a hundred structures including a museum building, towers, castles, and pyramids.³⁴ The Petrified Park was added to the National Register of Historic Places in 1977.

Wall Drug

In 1931, Ted and Dorothy Hustead bought the drugstore in Wall on the outskirts of the Badlands. Little did they know that their store would become one of America's top-ten tourist attractions.³⁵ Free ice water did the trick. In 1936, Dorothy suggested putting up signs along the highway advertising free ice water. Now thirsty travelers drink more than 5,000 free glasses of ice water a day during the summer. More than 250 people work at Wall Drug every summer, too.³⁶ Grown well beyond a simple drug store, Wall Drug features mechanical cowboys and a roaring *Tyranosaurus Rex*. Hundreds of photographs line the walls. Visitors can buy western clothing, books, jewelry, and souvenirs.

Corn Palace

During the 1890s, Mitchell area farmers and business people wanted to attract new settlers to their area. In 1892, Mitchell built its first Corn Palace, decorated inside and out with corn, grain, grasses and straw. Mitchell also held a big fair, the Corn Belt Exposition, to show off the Palace. It was so successful that it became an annual event. In 1905, the Exposition changed its name to the Corn Palace Festival, and a permanent building was constructed. The Moorish minarets and kiosks on the original building were restored in the 1930s.³⁷ Each year, the Corn Palace is redecorated with colored corn and other grains and native grasses. A theme is chosen and murals are designed to reflect that theme. The decorating starts in late May and the new murals are completed by October. Ears of corn are split in half and nailed in place to create the designs. The Corn Palace attracts about 500,000 tourists each year.³⁸ It is also an auditorium used for sporting events, concerts, and other community events.

Events

Custer State Park and Buffalo Roundup

Custer State Park covers 73,000 acres in the Black Hills. The park's landscape has grasslands, foothills, and granite spires. Harney Peak, the highest point in South Dakota at 7,242 feet, is located in the park. Scenic Needles Highway and Iron Mountain Road also wind through the park. The park is home to abundant wildlife including bison, pronghorn, and bighorn sheep. The park's Wildlife Loop Road provides good animal viewing.

One of Custer State Park's most well known features is its bison herd. Started in 1914 with the purchase of 36 bison, the herd is kept to about 1,500 head today. During the park's annual Buffalo Roundup in October, the bison are herded into corrals along Wildlife Loop Road. There, the handlers test, vaccinate, brand, and sort them. Most are released back into the park. Others are held for the

³³ Gries, *Roadside Geology*, 112.

³⁴ Lemmon, South Dakota, *Lemmon's Petrified Wood Park and Museum*, <http://www.lemmonsd.com/petrefied.html>.

³⁵ Ron Franscell, "Wall Drug remains a U.S. kitschy coup," *Denver Post*, April 29, 2001, <http://www.walldrug.com>.

³⁶ *Ibid.*

³⁷ City of Mitchell, South Dakota, *Corn Palace History*, <http://www.cityofmitchell.org/palace/rent.htm>.

³⁸ *Ibid.*

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annual auction in November. The roundup keeps the herd size down to a level that the park can support over the winter.³⁹

Custer State Park is also the home to the State Game Lodge. This structure was built in 1920, and served as the “Summer White House” for President Calvin Coolidge in 1927. Another famous building in the park is the “Badger Hole”, the hand-built log cabin where Badger Clark, South Dakota’s first poet laureate lived.

Sturgis Motorcycle Rally

The Sturgis Motorcycle Rally is held annually in Sturgis, South Dakota. The first Rally, called the Black Hills Classic, was held in August 1938, and lasted two days. It had a lineup of only nine racers. The local motorcycle club, the Jackpine Gypsies, sponsored it. Clarence “Pappy” Hoel owned the Indian Motorcycle shop in Sturgis and is generally considered the founder of the Rally. The Rally has been held every year, except during World War II when gas rationing was in effect. The Jackpine Gypsies own the lighted short track, motocross track, field meet area, hillclimb area, clubhouse, office, and concession stand where Rally races are held. The Gypsies hold twelve events during the Rally including motocross racing, a 1/2 mile race, hill climbs, road tours and short track racing.⁴⁰ The Rally has grown from a simple racing event into a weeklong celebration with vendors, concerts, and huge crowds. Attendance at the 2006 Rally topped 450,000.⁴¹

South Dakota State Fair

Holding an annual exhibition of the agricultural products of South Dakota began even before statehood. The Territorial Legislature created a Board of Agriculture in 1885 with the purpose of “forwarding the interests of agriculture, horticulture, manufacturing, and domestic arts.”⁴² The fair was originally shifted between towns, with Huron, Aberdeen, Sioux Falls, Mitchell, and Yankton holding the fair between 1885 and 1905. Starting in 1905, Huron became the fair’s permanent home. The 1905 fair in Huron featured political speeches, horse racing, and livestock exhibits. Over the years, many buildings on the fairgrounds were built, razed, and replaced as the fair and its exhibits grew. In 1919, the first year 4-H was involved in the fair, they had 100 exhibits. The 2001 state fair had over 18,000 4-H exhibits.⁴³

Powwows

A powwow or *wacipi* (wa-SEE-pee) in Lakota, brings people together to sing, dance, and make friends. Powwows are also a place to hold naming and honoring ceremonies and have giveaways. Drumming and dancing are at the heart of the powwow. A Drum consists of a group of men and women who sing together on a regular basis. At a powwow, a Drum can be joined by friends and the members of other Drums. Drum singing is high, with a heavy, pulsating rhythm. A good singer knows the song, keeps a steady beat, and plays the drum loud or soft enough to mesh with the singing voices. Songs can be made up entirely of vocables, or syllables that carry the melody, or use native language words. Some songs use English words, too.

Many different types of dances are performed at a powwow. Some dances have a long history, while others are recent innovations. At competition powwows, dancers compete with each other to win prize money. Four powwow dances are Men’s Traditional, Men’s Fancy Dance, Women’s

³⁹ SD Department of Game, Fish and Parks. “Tatanka: The Guide to South Dakota’s Custer State Park,” Volume 28, 2007, 5. <http://www.sdgfp.info/Publications/Parks/Tatanka.pdf>.

⁴⁰ Jackpine Gypsies M/C, *Jackpine Gypsies History*, <http://www.jackpinegypsies.com/history.htm>

⁴¹ 67th Annual Sturgis Rally, *Attendance statistics*, <http://www.sturgis.com/2kstats.html>

⁴² Susan Hayward, *History: The South Dakota State Fair*, unpublished document, December 1, 2006.

⁴³ *Ibid.*

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Traditional, and Women's Jingle Dress Dance. Social dancing, where spectators can join in the dancing, is also part of the powwow. A Round Dance is a social dance. The Dakota, Nakota and Lakota people hold powwows throughout the year, many in the summer.

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Photograph List

- 1. Needles Highway:** The beauty of the Black Hills made them a natural draw for tourists. Needles Highway and Iron Mountain Road form part of the Peter Norbeck National Scenic Byway. Needles Highway runs through a landscape of tall granite spires. Workers used 150,000 pounds of dynamite to create the highway. Photo by South Dakota Tourism
- 2. Iron Mountain Road:** Peter Norbeck designed Iron Mountain Road to fit into the natural landscape of the Hills. The road doubles back on itself in pigtail loops as it climbs the mountain. Three tunnels along the road each offer a framed view of Mount Rushmore. Photo by South Dakota Tourism
- 3. Bear Butte:** A volcano that never erupted, from the ground Bear Butte looks like a sleeping bear. Sacred ground to the Sioux and the Cheyenne, it is a site for prayer and meditation. Summit Trail takes hikers to the top of the butte where they can see four states. Photo by South Dakota Tourism
- 4. Badlands:** Erosion reveals layers of geological time in the Badlands. Each layer – red, purple, yellow – marks a different period in geological history. Although they may look barren, the Badlands are home to a wide variety of animals. The black-footed ferret has been successfully reintroduced into the wild in the Badlands. Photo by South Dakota Tourism
- 5. Glacial Lakes:** There are about 10,000 glacially created water basins in eastern South Dakota, ranging from large, deep lakes to small, shallow sloughs. They provide excellent waterfowl and fish habitat and good hunting and fishing. They also provide places for swimming, boating, hiking, and skiing. Photo by South Dakota Tourism
- 6. Sica Hollow:** In Sica Hollow, located in the northeast corner of the state, swamp gasses bubbling up from mud holes, stumps glowing in the dark, and gurgling waterfalls provide fodder for legends and superstitions. Sica Hollow became a state park in 1968. The park's 807 acres of steep gullies are home to a rare hardwood forest and diverse wildlife. Photo by South Dakota Tourism
- 7. Falls Park:** The falls that give Sioux Falls its name are located in Falls Park. The Sioux Falls formed when a glacial dam broke upstream, releasing a flood that swept away huge chunks of bedrock and creating a gorge with angular surfaces. At the falls, the Sioux River cascades over quartzite ledges and drops over 80 feet in less than a quarter of a mile. Photo by South Dakota Tourism
- 8. Devil's Gulch:** Outlaw Jesse James allegedly jumped his horse over the 20-foot gash between the sheer walls of Devil's Gulch in 1876 when a posse from Northfield, MN was close behind. A footbridge lets visitors get a view of the supposed jump site near Garretson. South Dakota State Archives
- 9. Spirit Mound:** Eight miles north of Vermillion stands a lone hill called Spirit Mound. In their journals, Lewis and Clark tell about climbing the hill. The Yankton people had told them about it, warning them that small devils lived on the hill. Lewis and Clark saw no devils, but did get a spectacular view of the surrounding prairie with its abundant wildlife. In 2001, Spirit Mound became a state park. The area around the mound has been restored to native prairie, and a walking trail takes visitors to the top. Photo by South Dakota Tourism

10. Mount Rushmore: George Washington, Thomas Jefferson, Abraham Lincoln, and Theodore Roosevelt look down from the top of Mount Rushmore. Carved between 1927 and 1941, the 60-foot faces are visited by thousands of people every year. Photo by South Dakota Tourism

11. Drilling on Rushmore: Jack Payne, a middleweight boxer, worked as a driller on Mount Rushmore. Here Payne works on Teddy Roosevelt's head. Thomas Jefferson's profile is visible behind him. Photo by C. E. Bell, 1937. South Dakota State Archives

12. Mount Rushmore workers: Workers pose for the camera in front of Mount Rushmore, ca. 1940. From 1927 to 1941, about 400 people worked on the project. No lives were lost during the construction. Photo by C.E. Bell, c. 1940. South Dakota State Archives

13. Mammoth Site: The Mammoth Site in Hot Springs is the world's largest Columbian mammoth exhibit. 26,000 years ago, mammoths and other animals were trapped in a sinkhole. The bones of 52 Columbian mammoths have been discovered at the Mammoth Site. Photo by South Dakota Tourism

14. Oahe Dam: Oahe Dam is named for the Lakota Oahe Indian Mission built in the area in 1874. The waters of Lake Oahe have covered the original mission site. Completed in 1962, Oahe Dam produces 700,000 kilowatts of electrical power. Lake Oahe is the fourth-largest manmade reservoir in the United States. It has more than 2,250 miles of shoreline. Photo by South Dakota Tourism

15. Dinosaur Park: Giant prehistoric creatures stand on a hillside overlooking Rapid City. Dinosaur Park was built in the 1930s as a WPA project. The original five dinosaurs – an Apatosaurus (formerly Brontosaurus), Tyrannosaurus Rex, Triceratops, Stegosaurus, and Anatotitan (formerly Trachadon) were joined in more recent years by a Protoceratops and a Dimetrodon. South Dakota Historic Preservation Office

16. South Dakota Capitol: Completed in 1910, the South Dakota Capitol was 114,000 square feet. Its Classic Revival style included an ornate rotunda dome with stained-glass skylights. Photo by South Dakota Tourism

17. Capitol: This 1911 photograph of the back of the Capitol building shows the symmetry and balance in its Classic Revival architecture. Western Architect, April 1911. South Dakota State Archives

18. Interior of the Capitol: In December, Christmas decorations and a Hall of Trees go up in the Capitol. Work had begun in 1977 to bring the Capitol back to its original 1910 look. Restoration was completed in 1989 for the state's centennial. Photo by South Dakota Tourism

19. Cultural Heritage Center: The Cultural Heritage Center in Pierre houses the South Dakota State Historical Society. Built in 1989, the 64,000 square foot structure's underground design makes it very energy efficient. It has facade of Milbank granite. The Center's grounds are covered in native prairie sod. Photo by South Dakota Tourism

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20. DeSmet: Several of Laura Ingalls Wilder's "Little House" books including *Little Town on the Prairie* and *The Long Winter* are set in DeSmet. The Ingalls homesteaded one mile south of town. Cottonwood trees that Pa Ingalls planted are still growing on the land. In 1971, the Laura Ingalls Wilder Pageant Society began doing a pageant based on Laura's books every summer.

Photo by South Dakota Tourism

21. Mitchell Corn Palace, 1975: Decorations on the outside of the Corn Palace in 1975 focused on the fine arts. The building's onion-shaped domes give it a unique look. South Dakota State Archives

22. Corn Palace, 2003: The Corn Palace's colorful murals on the outside of the building are changed most years. Ears of corn are split in half and nailed in place to create the designs. With a theme of Scenic South Dakota, the 2003 murals included a rodeo scene, grazing cattle, and wildlife.

Photo by South Dakota Tourism

23. Fort Sisseton: Fort Sisseton, originally called Fort Wadsworth, was built in 1864 to watch over the Santee Sioux following the Minnesota Uprising of 1862. The army closed the fort in 1888. In recent years, Fort Sisseton became a state historical park and a National Historic Landmark. It has been restored to its 1880s frontier fort look. Photo by South Dakota Tourism

24. Custer Buffalo Roundup: Every October since 1914 the buffalo in Custer State Park are rounded up. Herded into corrals, the buffalo are tested for disease, vaccinated, and branded. Most are released back into the park. Others are sold at auction. The roundup keeps the herd size to about 1,500. Photo by South Dakota Tourism

25. Sturgis Motorcycle Rally: Held every summer in Sturgis, the Rally draws thousands of motorcycle riders from all over the world. The first Rally held in 1938 featured nine racers with a small audience to cheer them on. Today, the Rally draws over 450,000 each year. Motorcycles line the streets of Sturgis and other Black Hills towns during Rally week. Photo by South Dakota Tourism

26. State Fair: In 1905, Huron became the permanent home of the South Dakota State Fair. Every summer the state fair gives 4-H members and others a forum to display projects and livestock. Midway rides and fair food add to the fun. Photo by South Dakota Tourism

27. Powwow: A powwow or *wacipi* brings people together to sing, dance, and make friends. Many different types of dances are performed at a powwow, including fancy dances, traditional dances, and social dances. Powwows are held throughout the state each summer. Photo by South Dakota Tourism

Name _____

Word Find

Z	B	L	V	P	R	Y	S	M	B	X	A	W	U	O	R
P	I	R	C	I	Z	C	R	A	Z	Y	H	O	R	S	E
P	L	O	O	T	O	K	Y	M	P	K	S	D	K	X	F
O	R	E	I	Z	P	R	C	M	T	R	B	E	D	O	U
S	I	C	A	H	O	L	L	O	W	T	A	V	C	B	G
Q	T	W	U	D	U	A	N	T	R	C	D	I	O	N	E
H	M	U	B	W	T	S	K	H	Q	B	L	X	R	M	S
C	W	H	R	D	N	R	E	U	I	Y	A	T	N	I	Z
U	I	G	Y	G	R	W	X	B	G	H	N	E	P	L	E
I	N	C	A	P	I	T	O	L	C	I	D	Z	A	B	S
X	P	U	L	K	A	S	R	P	W	O	S	U	L	A	D
K	Y	G	F	R	Z	L	E	M	M	O	N	Z	A	N	O
M	O	Z	Z	A	P	A	I	G	Y	S	H	Y	C	K	Z
C	F	O	R	T	S	I	S	S	E	T	O	N	E	E	G
P	J	Z	O	R	N	T	E	W	A	P	U	E	F	Y	I
X	O	B	T	W	N	M	V	R	W	D	R	F	N	T	D
D	Q	F	A	L	L	S	P	A	R	K	E	Z	S	D	O
B	N	C	M	E	I	W	K	C	K	E	T	S	W	I	M
K	Z	Q	P	M	E	Y	P	T	J	B	O	V	I	K	S

Sica Hollow
 Lemmon
 Lead
 Palisades

Corn Palace
 Fort Sisseton
 Crazy Horse
 Refuges

Prairie
 Pierre
 Badlands
 Mammoth

Capitol
 Falls Park
 Milbank
 Sturgis

Word Find Key

Z B L V P R Y S **M** B X A W U O **R**
 P I R C I Z **C R A Z Y H O R S E**
 P **L** O O T O K Y **M P** K S D K X **F**
 O R **E** I Z P R C **M** T **R B** E D O **U**
S I C A H O L L O W T **A** V **C** B **G**
 Q **T** W U **D** U A N **T** R C **D** I **O** N **E**
 H M **U** B W T S K **H** Q B **L** X **R** **M** **S**
 C W H **R** D N R E U I Y **A** T **N** I Z
 U I G Y **G** R W X B G H **N** E **P** **L** **E**
 I N **C A P I T O L** C I **D** Z **A** **B** S
 X P U L K **A S** R P W O **S** U **L** **A** D
 K Y G F R Z **L E M M O N** Z **A** **N** O
 M O Z Z A **P** A **I** G Y S H Y **C** **K** Z
 C **F O R T S I S S E T O N** E E G
 P J Z O R N T **E** W **A** P U E F Y I
 X O B T W N M V **R** W **D** R F N T D
 D Q **F A L L S P A R K** E Z S D O
 B N C M E I W K C K **E** T **S** W I M
 K Z Q P M E Y P T J B O V I K S

Sica Hollow
 Lemmon
 Lead
 Palisades

Corn Palace
 Fort Sisseton
 Crazy Horse
 Refuges

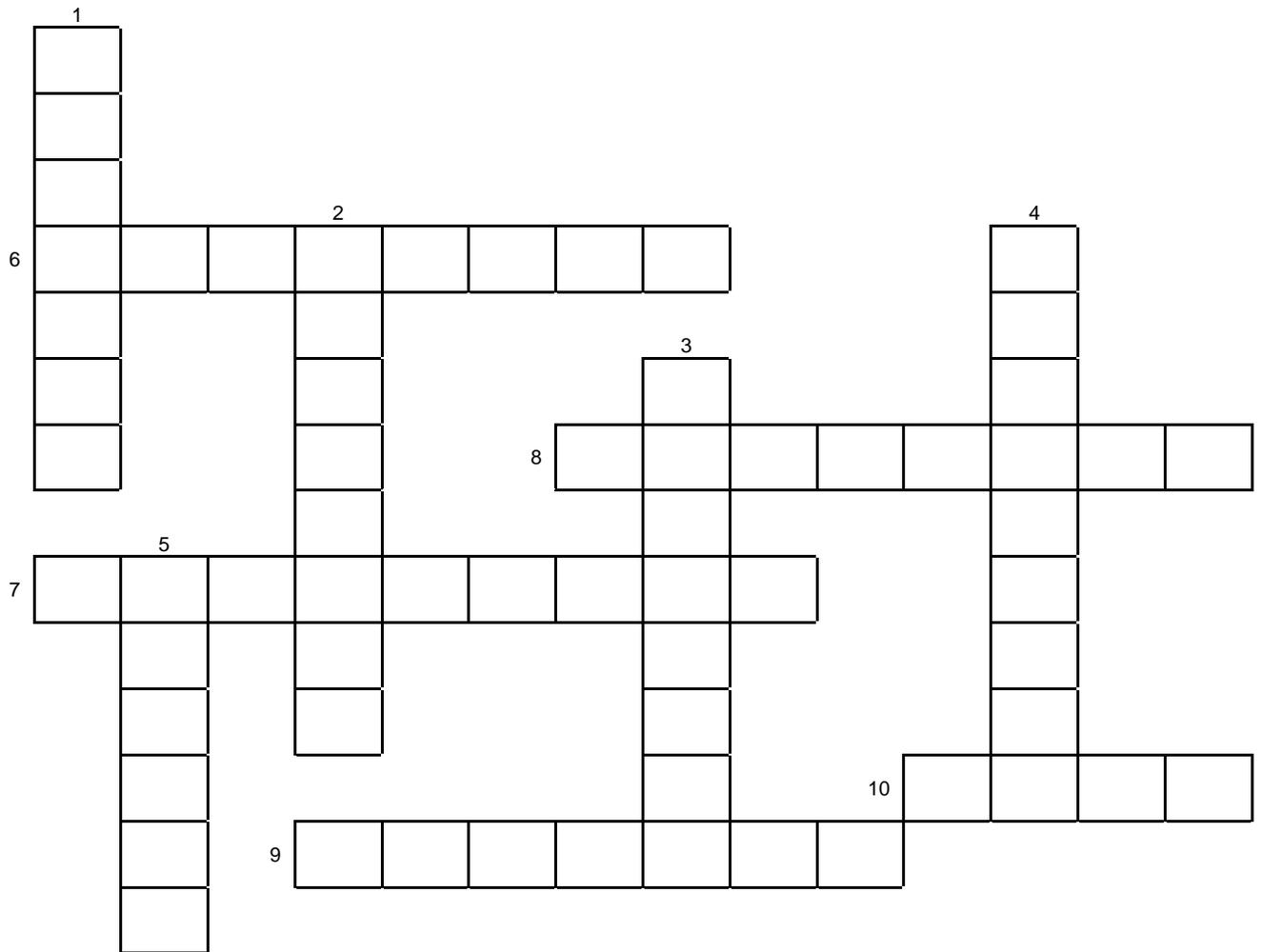
Prairie
 Pierre
 Badlands
 Mammoth

Capitol
 Falls Park
 Milbank
 Sturgis

Crossword Puzzle

Word List:

Deadwood Needles Missouri Homestake Dinosaur Bear Pierre Spearfish Mitchell glacial



Down:

1. This scenic highway winds its way through skinny rocks in the Black Hills.
2. _____ Park has concrete sculptures of pre-historic creatures.
3. The _____ River runs down the middle of the state.
4. _____ Mine produced more gold than any other single gold mine in the U.S.
5. _____ is the state capital of SD.

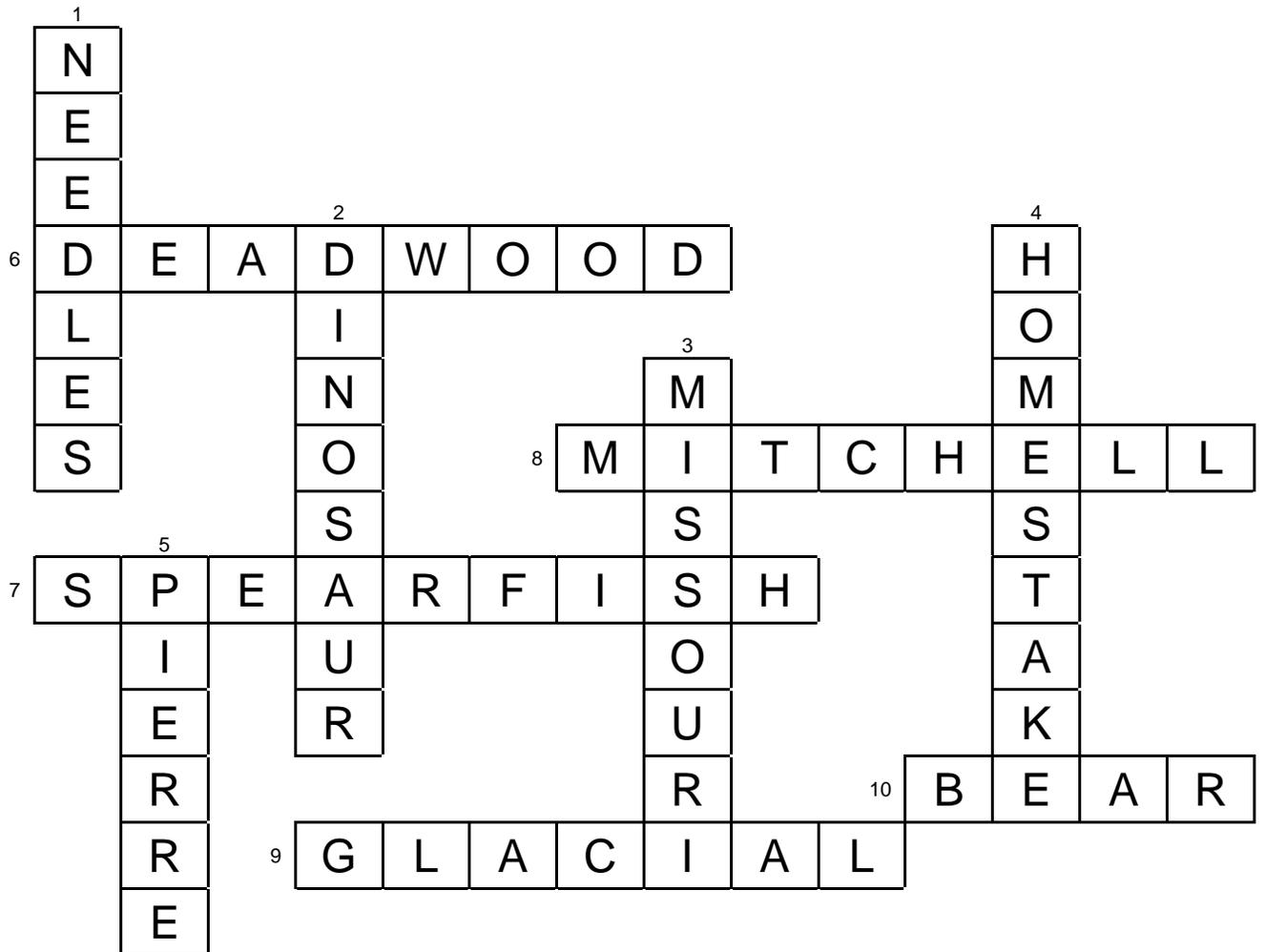
Across:

6. _____ was a "Wild West" town.
7. This canyon got its name from one method the Indians used to capture fish.
8. _____ is the home of the Corn Palace.
9. Large ice sheets left behind _____ lakes.
10. _____ Butte is holy ground to the Cheyenne and Sioux Indians.

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Word List:

Deadwood Needles Missouri Homestake Dinosaur Bear Pierre Spearfish Mitchell Glacial



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State Symbols Word Scramble Key

Pasque Triceratops Black Hills Spruce Honey Bee Walleye Pheasant Coyote Kuchen

1. The South Dakota state flower is sometimes called the May Day flower. Its bloom is one of the first signs of springtime on the plains. S E Q A P U

P A S Q U E
1

2. The state dessert was “cake” to South Dakota’s German immigrants. H E N U C K

K U C H E N
2 7

3. You can hear the state animal howl and yip at night, especially in the spring. E Y C O O T

C O Y O T E
8

4. This creature had three horns. It lived 68 million years ago. It was named state fossil in 1988.

C I T R O P A S T E R
T R I C E R A T O P S
4

5. The largest member of the perch family became state fish of South Dakota in 1982. Many anglers come to the state each year for this fish. Y E L L E A W

W A L L E Y E
6

6. South Dakota shares a state insect with several other states. It helps pollinate crops and makes honey. N E H O Y E E B

H O N E Y B E E
3

7. The tree that makes the Black Hills look black from a distance became our state tree in 1947.

C A B L K S L I H L C E S P R U
BLACK HILLS S P R U C E
5

Fill in the letters from the numbered spaces above to find the answer below.

8. The South Dakota state bird originated in Asia. Two farmers near Doland released some of these birds on their farms in 1908. They did so well in South Dakota they became the state bird in 1943.

E P A S H N A T
P H E A S A N T
1 2 3 4 5 6 7 8

Learning from Objects

Objectives:

- Participants will examine objects.
- Participants will draw conclusions based on direct observation.
- Participants will recognize that much information can be acquired about an object from direct observation.

South Dakota Social Studies Standards						
K	1st	2nd	3rd	4th	5th	6th
K.E.1.2	1.E.1.1	2.US.1.2 2.US.2.1 2.E.1.1	3.E.1.1	4.W.2.1	5.US.1.1 5.W.1.1	6.W.1.1 6.E.1.1

South Dakota Communication Arts Standards

K	1st	2nd	3rd	4th	5th	6th
K.LVS.1.2 K.LVS.1.6	1.LVS.1.2 1.LVS.1.6	2.LVS.1.2 2.LVS.1.4 2.LVS.1.5 2.LVS.1.6	3.LVS.1.1 3.LVS.1.2 3.LVS.1.3 3.LVS.1.4	4.LVS.1.1 4.LVS.1.3	5.LVS.1.1 5.LVS.1.2 5.LVS.1.3	6.LVS.1.2 6.LVS.1.3

South Dakota Science Standards

K	1st	2nd	3rd	4th	5th	6th
K.P.1.1		2.P.1.1	3.P.1.1 3.E.1.2			

Timeframe: 30-60 minutes

Materials:

Included in kit

All objects

Object Identification Sheet

Why Learn from Objects?

There are many ways to learn about the world. One way is to listen and hear information – auditory learning. Another way to get information is by reading, watching a TV or video program, or looking at photographs – visual learning. This kit lets participants learn in another important way – by handling three-dimensional objects. This develops kinesthetic skills, or learning by touch. Participants can see physically how objects are alike and how they are different. They can consider what use an object may have – is it a stand-in for something, like a live animal or a physical place? Is it an object that was made or used by people from a different culture? The kit's written information, photographs and three-dimensional objects allow participants to practice all three learning styles.

Activity Steps:

1. Arrange the participants so that it is easy to pass objects from one to another. Pass the objects around one at a time, allowing the participants to handle and examine them.
2. While the participants are examining the objects, use the points below to start discussion about the materials, construction and history of the objects. Encourage the participants to share the visual and tactile information they get from the objects. You may ask each participant to consider a different aspect of the object-history, material, etc. Have the participants respond so the entire group can hear and enter into the discussion.
3. After an object has been examined, share the information found on the Object Identification Sheet with the group.

Materials & Construction:

- What material is the object made out of? (wood, paper, plastic, rubber, metal, fabric, feathers, straw)
 - Is the material made by man or by nature?
 - If it is natural, has it been changed by people? (carved, cast, molded, glued, sewed)
- Is the object sturdy or fragile?
- Is the object light or heavy?
- Is the object hard or soft?
- How would you describe the texture of the surface of the object?

History & Function:

- What might be the purpose of the object?
 - Why might it be included in the kit? What might the object be trying to show?
- Does the object look or feel like something from long ago, or is it something from recent times?
- Is this object still used today?
- What has changed about the object today?
- Was the object used for a special task or occasion or was it an everyday item?
- What questions do you have about the object?
- Where could you find the answers to your questions?

Object Identification Sheet

Kit 1

T-2007-001

Wall Drug glass: Wall Drug is one of the top tourist attractions in America. In 1936, during the Great Depression, Wall Drug advertised free ice water to highway travelers. Today, it serves more than 5,000 glasses of ice water each summer day. Visitors can buy books, jewelry, and souvenirs like this glass to remember their Wall Drug stop.

T-2007-003

Mount Rushmore model: Mount Rushmore is one of the most recognizable monuments in the world. Carved on the granite mountain from 1927 to 1941, four U.S. presidents – George Washington, Thomas Jefferson, Abraham Lincoln, and Theodore Roosevelt – look down on thousands of visitors. Over 450,000 tons of stone was blasted and drilled to form the four 60-foot faces.

T-2007-033

Woolly mammoth figurine: The Mammoth Site in Hot Springs is a Columbian mammoth exhibit and research center. 26,000 years ago, the Mammoth Site was a large sinkhole that attracted mammoths with lush vegetation. They went into the sinkhole to eat, but could not climb the steep banks to get out. The sinkhole eventually filled up with sediment and hardened, preserving the mammoth bones. Scientists uncover the mammoth fossils. Most fossils are from the North American Columbian mammoth. Fossils from three woolly mammoths, like this figurine, have been found as well. The Mammoth Site was one of the first places where both species were found together.

T-2007-005

Mammoth tooth replica: Mammoths had four teeth, two upper and two lower. They chewed about 500 pounds of vegetation every day. As one set of teeth wore out, another would push forward and replace the worn ones. Mammoths had six sets of teeth over their lifetime. At the Mammoth Site in Hot Springs, scientists uncover and study mammoth fossils, including their teeth. This replica tooth is made from lightweight polyfoam.

T-2007-063, 065

Mammoth tusk fossil samples: Like an elephant's tusks, a mammoth's tusks grew its entire life. Tusks were made of layers of dentin. By studying how fast the tusk layers grew, scientists learned how well a mammoth was eating. Layers of tusk dentin grew thicker in the summer when food was plentiful and thinner in the winter when food was scarce. These samples are layers from tusks.

T-2007-007

Crazy Horse scale model: Korczak Ziolkowski began carving Crazy Horse in 1948. Lakota elders chose Crazy Horse for the carving because he symbolized American Indian spirit, pride and courage. To make Crazy Horse's head, over seven million tons of rock had to be moved. All four of the faces on Mount Rushmore would fit inside Crazy Horse's head.

T-2007-009

***Little Town on the Prairie* book:** Laura Ingalls Wilder moved to Dakota Territory in 1879, when she was twelve years old. The Ingalls family homesteaded south of DeSmet. Some of the cottonwood trees that Pa Ingalls planted still grow there. When Laura grew up, she became an author and wrote books about her childhood. Several of Laura's "Little House" books, including *Little Town on the Prairie*, are set in DeSmet.

Fish molds are used for the "Something Fishy" kit activity:

T-2007-011

Northern pike fish mold: Northern pike are a sport fish found all over South Dakota. They live in lakes, rivers, and ponds. Northerns usually eat fish, but sometimes they eat small birds and mammals, too.

T-2007-013

Carp fish mold: Carp were introduced to the U.S. in the 1800s as a food fish. Today, they can be found everywhere. They live in lakes and streams all over South Dakota. Carp are bottom feeders, eating insects and green plants. They can get up to 50 pounds.

T-2007-015

Walleye fish mold: Walleye live all over South Dakota. They are the largest member of the perch family and can get up to 15 pounds. Walleye are the state fish of South Dakota. This rubber walleye mold is used for the "Something Fishy" kit activity.

T-2007-017

Bluegill fish mold: Bluegill have been stocked into lakes and ponds all across South Dakota. They like standing water with lots of weeds or flooded trees in it. They eat insects, larvae, and algae. Bluegill males build nests on the sand or gravel at the bottom of a lake for the female to lay her eggs in. The males guard the eggs.

T-2007-019

Perch fish mold: Perch are common throughout the state. They eat small fish, insects, snails and crayfish. Fish feed in deep water, but move into shallow water during the evening. Popular with anglers, perch can get up to 2 pounds.

T-2007-085

Rainbow trout fish mold: Rainbow trout are not native to South Dakota. They have been stocked in the Missouri River system and Black Hills lakes and ponds. Trout are a good food fish. Most of the trout populations in the state are maintained by stocking, not by natural reproduction.

Animal track molds, turtle shell, and animal figurines are used for the “Where Does South Dakota Wildlife Live?” activity

T-2007-021

Muskrat track mold: Adult muskrats look like small beavers. They are great swimmers. Muskrats can be trapped for their fur. They live in lodges made of sticks and mud. These rubber track molds are of the front and back feet of a muskrat. The small track is the front foot.

T-2007-023

Pronghorn track mold: Pronghorns are the fastest animal in North America. They can run 60 miles per hour. Pronghorns are brown with white rumps and bellies. If they sense danger, the white hair on their rump stands up. Pronghorns eat sagebrush and flowering plants. Their tracks are about 2 ½ to 3 inches long and wider at the base than deer tracks. No dewclaws are evident.

T-2007-083

Mule deer track mold: Mule deer are tan with long ears like a mule. They have a distinctive jump where all four feet come down together. Mule deer can change direction in a single jump. They bed down during the day and browse on grass at night. Their hoof print looks like two paisley shapes facing one another with small "dots" of the dewclaws at the wider end of these paisleys.

T-2007-080

Turtle shell: South Dakota is home to a variety of turtles. In Lakota, turtles are called keya. They show up often in stories and beadwork. Painted turtles are found all over the state. They bask in the sun on logs or rocks. Painted turtles pull into their shells for protection. They eat aquatic plants, insects, and small fish. In winter, they bury themselves in marshy mud and hibernate.

T-2007-025

Black-footed ferret figurine: Once believed to be extinct, black-footed ferrets are the most endangered mammal in North America. The Badlands are the top site in the country for their reintroduction into the wild. Small but quick, ferrets eat prairie dogs. They live in prairie dog dens.

T-2007-027

Coyote figurine: The state animal of South Dakota, coyotes once lived west of the Missouri River. Today, they can be found all across the state. Their howls, yips and barks can be heard at night, especially in the spring. Coyotes look like bushy-tailed dogs. They will eat almost anything, but prefer rodents and rabbits.

T-2007-029

Prairie dog figurine: Prairie dogs are rodents that bark. They are social animals that live together in prairie dog “towns.” The towns are made up of underground tunnels. Prairie dogs groom one another and click their teeth to greet each other. They eat plants, and sometimes insects.

T-2007-031

Porcupine figurine: Porcupines are the second largest rodent in South Dakota. Their bodies are covered with sharp hairs called quills for protection. Porcupines aren't fast runners, but they are good swimmers and tree climbers. Porcupines eat plants, leaves, and twigs.

T-2007-035

Mountain lion figurine: Mountain lions are the biggest cats in South Dakota. They are also called cougars, pumas, or panthers. They can jump 20 feet. Mountain lions eat deer, elk, mountain goats, and rabbits. Sometimes they eat livestock and pets.

T-2007-037

Beaver figurine: Beavers are the biggest rodents in South Dakota. They weigh between 30 and 70 pounds. Beavers can hold their breath more than 10 minutes. Big orange teeth help them chew twigs and trees to make dams. Their big paddle-like tail slaps down on the water to warn of approaching danger and help them swim. Beavers eat leaves, roots, and bark.

T-2007-039

Raccoon figurine: Raccoons live all over South Dakota. They are slow runners but are smart enough to backtrack and play tricks on hunting dogs. Raccoons can grab, carry, and fish with their five-fingered hands. They are active at night and rest during the day. They eat crayfish, insects, and greens.

T-2007-041

Badger figurine: Badgers are stocky, wedge-shaped animals. They have sharp claws for digging and defending themselves. Their short legs help them work underground. Badgers dig tunnel homes that they sometimes share with coyotes. They eat rodents.

T-2007-043

Skunk figurine: Skunks are about the size of a housecat. They defend themselves by spraying a stinky mist. It smells so bad it can turn away mountain lions. Skunks can be found all over South Dakota. They eat rodents, insects, worms and eggs.

T-2007-045

Elk figurine: Elk are the second largest members of the deer family. They once lived all across South Dakota but now live only in the Black Hills. They grunt, whistle, bark, and bugle to each other. They wade or lie in streams, rivers, ponds and lakes to cool off and avoid biting insects. Elk eat shrubs, tree shoots, grasses, and mushrooms.

T-2007-047

Bighorn sheep figurine: Bighorn sheep live in the Badlands and the Black Hills. They have curved horns that get thicker and longer as they get older. A pair of horns can weigh 30 pounds. They are important weapons for males when they fight head-to-head. Bighorns browse on greens in summer and woody plants in winter.

T-2007-049

Bison figurine: American bison, usually called buffalo, are the largest animals on the Great Plains. They can weigh up to 2,000 pounds. Bison have short legs, but can run fast. At one time, there were millions of bison. Today, most live on ranches and in parks.

T-2007-051

Cotton-tailed rabbit figurine: Cotton-tailed rabbits live everywhere in South Dakota. They eat green leaves, shrub buds and twigs or bark. They like to nibble on garden flowers and vegetables, too. Although closely related, rabbits and hares are different animals. Rabbits are usually smaller than hares. They stay the same color year-round, too. Many hares turn white in the winter.

T-2007-057

Jackrabbit figurine: White-tailed jackrabbits are actually hares, not rabbits. "Jacks" can run 45 miles per hour and leap 20 feet at a time. Hares have longer hind legs than rabbits, so they can make bigger jumps. They eat native grasses and avoid coyotes, foxes, and hawks. Jackrabbit fur turns white in the winter so they can hide on snowy ground.

T-2007-053

White-tailed deer figurine: White-tailed deer make their home all across the state. They get their name from the white underside of their tail. The tail stands up when the deer runs and waves from side to side like a white flag. White-tailed deer eat grass in the summer and tree bark and twigs in the winter.

T-2007-055

Red fox figurine: Red foxes look like small dogs. They are night hunters. Foxes wrap up in their bushy tails when they sleep. They eat rodents, rabbits, birds, and insects. Foxes can be found all across South Dakota.

T-2007-059

Mountain goat figurine: Mountain goats live in the high peaks of the Black Hills. They grow thick, long hair during the winter. This coat helps them survive very cold weather and blizzards. Mountain goats have rubbery pads on their hooves for gripping rocks on steep slopes. They eat grass, woody plants, and moss.

T-2007-061

Petrified wood sample: Petrified wood is wood with all its organic matter replaced by minerals. It is an example of a fossil, something that remains from a previous geologic age. In northwestern South Dakota, there is a great deal of petrified wood because a forest of giant Sequoia trees covered the area twenty million years ago. In the 1930s, Lemmon built an entire park with towers, castles, and pyramids out of petrified wood.

T-2007-077

Indian corn seed sample: Mitchell is the home of the Corn Palace. Most years, the murals on the outside of the Palace are changed. The murals are made from colorful Indian corn. The cobs are cut in half and nailed in place. The murals use native South Dakota grasses and seeds as well.

T-2000-135

SD "Sunshine State" flag: South Dakota's original flag from 1909 had a sun on the front and the state seal on the back. In 1963, the seal and the sun's rays moved to the front of the flag with nothing on the back. In 1992, the flag changed again when the old flag words, "The Sunshine State," were replaced with "The Mount Rushmore State." This flag is the pre-1992 model.

T-2000-138

SD “The Mount Rushmore State” flag: In 1992, the state flag changed wording from “The Sunshine State” to “The Mount Rushmore State.” This flag is the current SD state flag.

T-2007-073

Wind Cave map: The Black Hills in South Dakota have some of the world’s longest caves. Wind Cave is the fourth-longest cave in the world. It has more than 110 miles of mapped passageways. New passages are being discovered and explored, too. This map shows the cave’s interior with different passage levels. This map is used for the “Cave, Road, and Range: Comparing Maps” activity.

T-2007-075

Jewel Cave map: The second-longest cave in the world, Jewel Cave has more than 135 miles of mapped passageways. It houses one of the largest known colonies of Townsend’s big-eared bats. This map is used for the “Cave, Road, and Range: Comparing Maps” activity.

T-2007-071

USDA National Forest regional map: National forests and grasslands are some of South Dakota’s great natural places. This map shows where the national forests and grasslands in the state are found. It also shows the state’s national parks and memorials, national wildlife refuges (NWRs) and the Indian reservations. This map is used for the “Cave, Road, and Range: Comparing Maps” activity.

Other kit items used for specific activities include:

- SD highway maps
- Animal description cards
- SD symbol clue cards
- Fish identification sheets
- Water user cards
- Water share cards
- Habitat posters

South Dakota Road Trip

Objectives:

- Participants will locate 10 places in South Dakota using map coordinates.
- Participants will solve a math problem to determine the number of miles they may drive.
- Participants will calculate miles between places using the mileage numbers on the map.
- Using mileage data, participants will calculate the mode, median, range and average of a series of numbers.

South Dakota Social Studies Standards

	K	1st	2nd	3rd	4th	5th	6th
History							
Geography	K.G.1.1	1.G.1.2	2.G.1.2	3.G.1.1	4.G.1.2		
Civics							
Economics	K.E.1.3	1.E.1.2	2.E.1.2		4.E.1.1		6.E.1.1

South Dakota Math Standards

K	1 st	2 nd	3 rd	4 th	5 th	6 th
		2.M.1.4	3.A.2.2	4.A.3.1	5.A.3.1	6.S.1.1
		2.S.1.3	3.N.1.1	4.M.1.2	5.G.2.3	
			3.N.2.1	4.N.1.1	5.M.1.2	
				4.N.2.1	5.N.1.1	
				4.S.1.2	5.S.1.2	

South Dakota Communication Arts Standards

K	1st	2nd	3rd	4th	5th	6th
K.LVS.1.1 K.LVS.1.6	1.LVS.1.1 1.LVS.1.6	2.LVS.1.1 2.LVS.1.4 2.LVS.1.6	3.LVS.1.1	4.LVS.1.1 4.LVS.1.2	5.LVS.1.1 5.LVS.1.2 5.LVS.1.3	6.LVS.1.3

Timeframe: 60-120 minutes

Materials:

Included in kit

6 South Dakota highway maps

South Dakota Road Trip worksheet masters

Provided by instructor or participants

pencils

scratch paper

Background Information:

South Dakota is full of interesting places. In this activity, participants will locate 10 South Dakota places on the highway map and plan a road trip to visit them. They have to figure out how many miles they can travel to visit sites and return home. Using the mileage numbers between sites, participants will practice their math skills and find the median, mode, range, and average of the number set.

Activity Steps:

1. Break the group into six working groups and give each a SD highway map. Give each participant a copy of South Dakota Road Trip worksheets 1 and 2.

South Dakota Places

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2. Working together, have the entire group solve the math problem on the worksheet to determine the number of miles they may travel.
3. Have participants find the ten locations listed on the worksheet and write in the map coordinates for each place.
4. Now that the groups know where each place is and how many miles they can travel, have them plan a road trip to visit some of those sites. They need to start from AND return to their school. They will add up the miles they travel between sites using the mileage numbers on the map. On the worksheet, write down the miles between each site. Remember, they have to return to the school.
5. Each group will have a set of mileage numbers. Have them arrange the numbers from largest to smallest on that section of the worksheet. They can then use their number set to answer the remaining worksheet questions.
6. Discuss:
 - Did the groups travel to some of the same places?
 - Did they use the same route?
 - Which of the 10 places would the participants most like to visit? Why?

Name _____

South Dakota Road Trip Worksheet 1

How many miles?

You have \$70 to spend on gas for your road trip. Gas costs \$2 per gallon. Your vehicle gets 30 miles per gallon. How many miles can you drive before you run out of gas?

Find the following ten places on the map and write down their map coordinates:

- 1. Mount Rushmore National Memorial _____
- 2. Devil's Gulch _____
- 3. DeSmet _____
- 4. Waubay National Wildlife Refuge _____
- 5. Spirit Mound Historic Prairie _____
- 6. Petrified Wood Park _____
- 7. Ft. Randall Dam _____
- 8. Mammoth Site _____
- 9. Pierre (state capital) _____
- 10. Sica Hollow State Park _____

Hit the Road!

Choose places from the list you want to visit. Start at your school and plan a road trip. Remember, you need to get back to your school! Keep track of the miles you travel between places below:

_____ to _____ = _____ miles
_____ to _____ = _____ miles

Name _____

South Dakota Road Trip Worksheet 2

Number Fun

1. Arrange the mileage numbers from worksheet 1 from LARGEST to SMALLEST

2. What is the **AVERAGE** of the numbers? _____

3. What is the **MEDIAN** of the numbers? _____

4. What is the **RANGE** of the numbers? _____

5. What is the **MODE** of the numbers in the 10s column? _____

Where Is That? A Map Reading Activity

Objectives:

- Participants will use map coordinates to locate specific places on a SD highway map
- Participants will identify 10 different places within the state.
- Participants will find the coordinates for 10 specific places.

South Dakota Social Studies Standards						
K	1st	2nd	3rd	4th	5th	6th
K.G.1.1	1.G.1.2 1.C.1.1	2.G.1.2	3.G.1.1 3.G.1.2	4.G.1.2	5.G.1.1 5.G.1.2	

South Dakota Communication Arts Standards						
K	1st	2nd	3rd	4th	5th	6th
K.LVS.1.1 K.LVS.1.6	1.LVS.1.1 1.LVS.1.6	2.LVS.1.1 2.LVS.1.4 2.LVS.1.6	3.LVS.1.1	4.LVS.1.1 4.LVS.1.2	5.LVS.1.1 5.LVS.1.3	6.LVS.1.3

South Dakota Mathematics Standards						
K	1st	2nd	3rd	4th	5th	6th
K.A.4.2 K.N.1.1	1.A.2.1 1.G.2.1 1.N.1.1	2.A.2.1 2.A.4.2 2.N.2.1	3.A.2.2	4.A.3.1 4.N.3.1	5.G.2.3 5.N.3.1	

Timeframe: 30-60 minutes

Materials:

Included in kit

- Where Is That? worksheet master
- Where Is That? worksheet key
- Places in SD master list
- 6 SD highway maps

Provided by instructor or participants

Pencil or pen

Background Information:

South Dakota is full of interesting places, from museums to state parks to the geographical center of the United States. Over 180 of these places are identified on the state highway map in red. In this activity, participants will find at least 10 of these places and record the map coordinates for each. They will also find the map coordinates for 10 specific places listed on the activity worksheet.

Activity Steps:

1. Break the group up into 6 working groups and give each a SD highway map. Give each group a Where Is That? worksheet.
2. Decide what part of the map the participants will examine for places. You can have them look at the entire state, a particular area such as west river, or any defined area of the state you choose. You can have each group look at a different part of the state if you choose.
3. Once the area has been chosen, have each group look for 10 different places identified in red within that area. On the worksheet, have them write down both the place and the map coordinates, the intersection of the letter and number along the edge of the map, for that place.

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4. Have participants look over the map for the 10 places listed on the worksheet and write down the map coordinates for each place.

5. Discuss:

- What were some of the places each group found?
- Did some areas of the map have more red places than others? Why might that be the case?
- Which red place would participants like to visit? Why?

Name _____

Where Is That?

Find 10 places marked in red on the map and write down the place name and its map coordinates. The coordinates are the number and letter along the edge of the map.

Place	Map Coordinates
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____

Write down the map coordinates for the following places. The places are written in red on the map.

1. E. R. O. S.	_____
2. North/South Continental Divide	_____
3. Hugh Glass Monument	_____
4. Jewel Cave	_____
5. Flandreau Indian Reservation	_____
6. Geographical Center of USA	_____
7. International Vinegar Museum	_____
8. Lake Andes Nat'l Wildlife Refuge	_____
9. Sioux Indian Museum	_____
10. Adams Homestead and Nature Preserve	_____

Name _____

Where Is That? Worksheet Key

Find 10 places marked in red on the map and write down the place name and its map coordinates. The coordinates are the number and letter along the edge of the map.

Place	Map Coordinates
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____

Write down the map coordinates for the following places. They are red on the map.

- | | | |
|-----|-------------------------------------|-------------|
| 1. | E. R. O. S. | <u>F 18</u> |
| 2. | North/South Continental Divide | <u>A 17</u> |
| 3. | Hugh Glass Monument | <u>A 8</u> |
| 4. | Jewel Cave | <u>D 2</u> |
| 5. | Flandreau Indian Reservation | <u>E 18</u> |
| 6. | Geographical Center of U. S. | <u>A 2</u> |
| 7. | Int'l Vinegar Museum | <u>B 16</u> |
| 8. | Lake Andes Nat'l Wildlife Refuge | <u>G 15</u> |
| 9. | Sioux Indian Museum | <u>G 10</u> |
| 10. | Adams Homestead and Nature Preserve | <u>H 18</u> |

Places in South Dakota

PLACE	MAP COORDINATES	
Custer Nat'l Forest	A	6
Grand River Nat'l Grassland	A	7
Shadehill Dam	A	8
Petrified Wood Park	A	8
Liewellyn John's Mem. St. Rec. Area	A	8
Shadehill Res. St. Rec. Area	A	8
Hugh Glass Monument	A	8
West Pollock St. Rec. Area	A	11
Pocasse N. W. R.	A	11
Shaw Creek	A	11
Leavenworth Mon.	A	11
Eureka Pioneer Museum	A	12
Sand Lake Nat'l Wildlife Refuge	A	15
Sica Hollow St. Park	A	16
Ft. Sisseton St. Hist. Park	A	16
Roy Lake St. Park	A	16
Slim Buttes 30 Battle Sites (1876)	B	6
Custer Nat'l Forest	B	6
Little Moreau St. Rec. Area	B	10
Walth Bay	B	11
Indian Creek St. Rec. Area	B	11
Thomas Bay	B	11
Swan Creek St. Rec. Area	B	11
Cathedral on the Prairie	B	12
Lake Hiddenwood St. Rec. Area	B	12
Bangor Mon.	B	12
Prayer Rock	B	13
Richmond Lake St. Rec. Area	B	14
Mina Lake St. Rec. Area	B	14
Northern State University	B	14
Amdsen Dam	B	15
Pickereel Lake St. Rec. Area	B	16
Int'l Vinegar Museum	B	16
Waubay Nat. Wildlife Refuge	B	16
Blue Dog Fish Hatchery	B	16
Sisseton-Wahpeton Comm. College	B	17
Agency Village	B	17
Hartford Beach St. Park	B	17
Blue Cloud Abbey	B	17

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North/South Continental Divide	B	17
Big Stone Is. Nature Area	B	18
Inkapa-Du-Ta	B	18
Rocky Point St. Rec. Area	C	5
Orman Dam	C	5
Geographical Center of USA	C	5
Government Experimental Farm	C	6
Ben Ash Mon.	C	7
Cheyenne River Community College	C	10
Foster Bay	C	10
Minneconjou	C	10
Dodge Draw	C	11
West Whitlock St. Rec. Area	C	11
East Whitlock	C	11
Bob's Landing	C	11
Little Bend	C	11
Fort Sully Game Refuge	C	11
Sutton Bay	C	11
Bush's Landing	C	11
The Pickler Mansion	C	13
Abbie Gardner 1843-1921	C	14
Fisher Grove St. Park	C	15
Sandy Shore St. Rec. Area	C	16
Pelican L. St. Rec. Area	C	17
Pleasant Valley	C	18
Cochrane L. St. Rec. Area	C	18
McNenny Fish Hatchery	D	5
Black Hills State Univ.	D	5
Black Hills Passion Play (summer)	D	5
D.C. Booth Hist. Fish Hatchery	D	5
Theodore Roosevelt	D	5
Preacher Smith	D	5
Spearfish Canyon Scenic Byway	D	5
Terry Pk.	D	5
Deer Mtn.	D	5
Deerfield Dam	D	5
Bear Butte St. Park	D	6
VA Hospital	D	6
Black Hills Nat'l Cemetary	D	6
Fort Meade Vet. Admin. Res.	D	6
Takini	D	9
Spring Creek	D	11
Peoria Flats	D	11

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East Shore	D	11
West Shore	D	11
Oahe Downstream St. Rec. Area	D	11
Ft. Pierre (1832)	D	11
Okobojo Point St. Rec. Area	D	11
Cow Creek St. Rec. Area	D	11
Oahe Dam	D	11
Farm Island St. Rec. Area	D	11
Antelope Creek	D	11
State. Mus.	D	11
Chantier Creek	D	11
Verendrye Mon.	D	11
Ft. George	D	12
DeGrey	D	12
Rose Hill	D	14
Sunshine Bible Acad.	D	14
Lake Louise St. Rec. Area	D	14
Dakotaland Museum	D	15
Huron Univ.	D	15
Little Town on the Prairie	D	16
Lake Thompson St. Rec. Area	D	16
Lake Poinsett St. Rec. Area	D	17
Oakwood Lakes St. Park	D	17
S.D. State Univ.	D	17
Harney Peak 7242 Highest Pt. in S.Dak.	E	5
Jewel Cave Nat'l Mon.	E	5
Crazy Horse Mon.	E	5
Ellsworth AF Base	E	6
Custer State Park	E	6
Mt. Rushmore Nat'l Mem.	E	6
Cleghorn Springs State Fish Hatchery	E	6
S.D. School of Mines & Technology	E	6
Badlands Nat'l Park	E	8
Badlands Loop Scenic Byway	E	8
Prairie Homestead	E	8
Fort Pierre National Grassland	E	11
North Bend	E	12
West Bend St. Rec. Area	E	12
Fate Dam	E	12
North Bend	E	12
Native American Scenic Byway	E	12
Ft. Defiance (1842)	E	12
Joe Creek	E	12

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Ft. Kiowa (1842)	E	13
Big Bend Dam	E	13
Noble Monument	E	15
Lake Campbell Resort	E	17
Dakota St. Univ.	E	17
Walkers Pt. St. Rec. Area	E	17
Lake Herman St. Park	E	17
Buffalo Trading Post	E	17
Dells of the Sioux	E	18
Flandreau Ind. Res.	E	18
Mammoth Site	F	5
Cascade Falls	F	5
Angostura Dam	F	6
Angostura St. Rec. Area	F	6
Wind Cave Nat'l Park	F	6
Wildlife Loop	F	6
Cold Brook Res. Rec. Area	F	6
Badlands Nat'l Park	F	7
Visitor's Center	F	7
Oglala Lakota College	F	8
Badlands Nat'l Park Headquarters & Visitors Center Campground	F	8
Sinte Gleska Univ.	F	11
Dude Ranch	F	13
Elm Creek	F	13
Buryanek St. Rec. Area	F	13
Snake Creek St. Rec. Area	F	13
West Bridge	F	13
Stratosphere Balloon Landed (1935)	F	14
Platte Creek St. Rec. Area	F	14
Prehistoric Indian Village	F	15
Corn Palace	F	15
Dakota Wesleyan Univ.	F	15
Pumpkin Center	F	17
Lake Vermillion St. Rec. Area	F	17
E.R.O.S.	F	18
Devils Gulch	F	18
Palisades St. Park	F	18
Big Sioux St. Rec. Area	F	18
Beaver Cr. Nature Area	F	18
Buffalo Gap Nat'l Grassland	G	5
Wounded Knee Massacre Site	G	8
LaCreek National Wildlife Refuge	G	9
Sioux Indian Museum	G	10

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Burke Lake St. Rec. Area	G	13
North Wheeler St. Rec. Area	G	14
Whetstone Bay	G	14
Pease Creek St. Rec. Area	G	14
White Swan	G	14
North Point St. Rec. Area	G	14
Ft. Randall Dam	G	14
Randall Creek St. Rec. Area	G	14
Ft. Randall Hist. Restoration	G	14
Karl E. Mundt Nat'l Wildlife Refuge	G	14
Joe Day Bay	G	14
South Scalp Creek	G	14
South Wheeler	G	14
Lake Andes Nat'l Wildlife Refuge	G	15
Yankton Treaty Mon.	G	15
Springfield State Prison	G	16
Springfield St. Rec. Area	G	16
Sand Creek	G	16
Tabor	G	16
Lewis & Clark St. Rec. Area	G	16
Pierson Ranch St. Rec. Area	G	16
Gavins Point Dam	G	16
Chief White Crane St. Rec. Area	G	16
Mt. Marty College	G	16
Spirit Mound Historic Prairie	G	17
Union Grove St. Park	G	18
Newton Hills St. Park	G	18
Clay County	H	17
Univ. of S.D.	H	17
Adams Homestead and Nature Preserve	H	18
Graham Field	H	18

Cave, Road, and Range: Comparing Maps

Objectives:

- Participants will compare three different maps of South Dakota places.
- Participants will identify the legend and scale on each map and state what two of the legend symbols on each map mean.
- Participants will determine whether or not the maps show some of the same places.

South Dakota Social Studies Standards						
K	1st	2nd	3rd	4th	5th	6th
K.G.1.1		2.G.1.2	3.G.1.1 3.G.1.2	4.G.1.2	5.G.1.2	

South Dakota Communication Arts Standards						
K	1st	2nd	3rd	4th	5th	6th
K.LVS.1.1 K.LVS.1.6	1.LVS.1.1 1.LVS.1.6	2.LVS.1.1 2.LVS.1.4 2.LVS.1.6	3.LVS.1.1	4.LVS.1.1 4.LVS.1.2	5.LVS.1.1 5.LVS.1.2 5.LVS.1.3	6.LVS.1.3

Timeframe: 30-60 minutes

Materials:

Included in kit
 SD highway map
 Wind Cave map
 Jewel Cave map
 Forest Service map

Provided by instructor
 Blackboard space for writing notes

Background Information:

A map is a picture of a place. Maps are a good way of sharing graphic information about places with others. Some maps help people find places and others show where certain underground things are found. There can be many different maps of the same place. One map cannot show everything about a place. Maps use symbols such as points, lines, area patterns and colors to convey information. A thin line may mean something different from a thick one. The map’s legend tells what the symbols or pictures on a map mean. The map scale tells the user how distances are shown on the map. Large-scale maps show lots of detail and small features. A small-scale map only shows large features. A map’s scale can be written out – one inch equals 10 miles, for example. Scale can also be shown using a bar that has been marked to show distances. In this activity, participants will compare three different types of maps – a highway map, a grasslands map, and a cave map. They will decide what symbols used in the map legends mean and whether or not any of the maps show some of the same South Dakota places.

Activity Steps:

1. Arrange the group so everyone can see the SD highway map, one of the cave interior maps, and the rangeland map. Divide the blackboard space into three parts, one for each map.
2. Share the background information with the group.
3. Under each map space on the blackboard, have the group answer the following questions. The instructor may write out the answers as participants provide them, or have participants do the writing.
 - Identify the purpose of each map
 - Identify the legend on each map. Write out what at least two of the legend symbols for each map mean
 - Determine whether the map is large-scale (shows lots of detail and small features [the cave map]) or small-scale (shows only large features [the highway and grassland maps]).
 - Decide if any of the maps show some of the same places. List some of the things the maps show in common (highways, lakes, rivers, reservations, national forest, etc.)
4. Discuss:
 - How are the maps alike and how are they different?
 - If participants were making a map of South Dakota what features would they include? Why?
 - What features would participants include in a map of their school? Why? What could be one purpose for making a map of the school?

Decorate the Corn Palace

Objectives:

- Participants will explain how the exterior of the Corn Palace is decorated.
- Participants will identify materials used to decorate the Corn Palace.
- Participants will design and decorate their own Corn Palace art piece.

South Dakota Social Studies Standards						
K	1st	2nd	3rd	4th	5th	6th
	1.C.1.1	2.US.1.2 2.US.2.1	3.US.1.1 3.US.2.2 3.W.1.1 3.E.1.1	4.US.1.1 4.W.2.1 4.G.2.1 4.E.1.1		6.W.2.4 6.E.1.1

South Dakota Communication Arts Standards

K	1st	2nd	3rd	4th	5th	6th
K.LVS.1.1 K.LVS.1.6	1.LVS.1.1 1.LVS.1.6	2.LVS.1.1 2.LVS.1.4 2.LVS.1.6	3.LVS.1.1 3.LVS.1.2 3.LVS.1.4	4.LVS.1.1 4.LVS.1.2	5.LVS.1.1 5.LVS.1.2 5.LVS.1.3	6.LVS.1.3

South Dakota Visual Art Standards							
	K	1	2	3	4	5	6
Std. 1: Using traditional materials in art, benchmark 2	X	X	X	X	X	X	X
Std. 2: Visual arts as communication, benchmarks 1-3	X	X	X	X	X	X	X
Std. 3: Relationship of art and history/culture, benchmarks 1-3	X	X	X	X	X	X	X

Timeframe: 30-60 minutes

Materials:

Included in kit

Corn Palace outline master
 Photos 21 and 22

Provided by instructor or participants

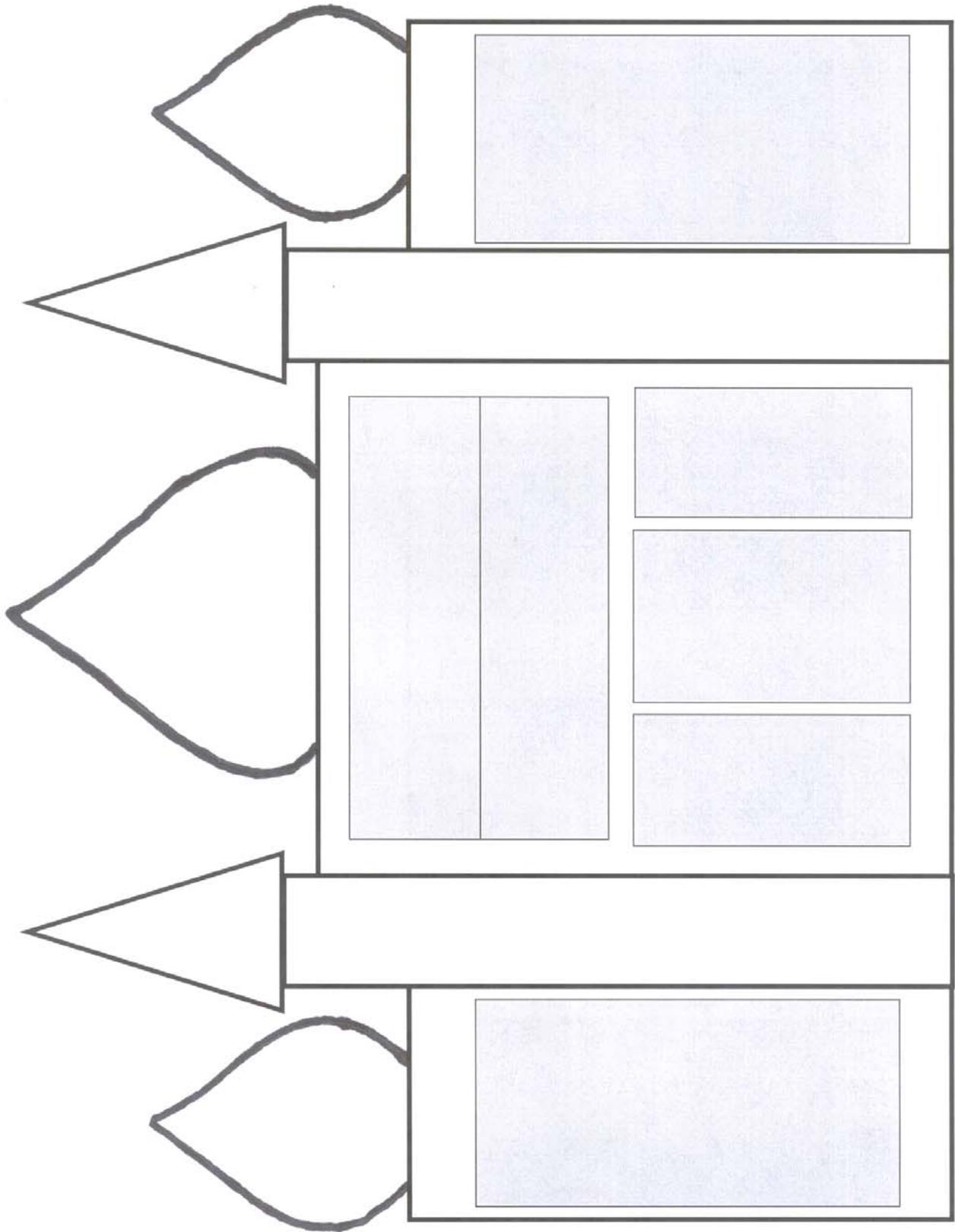
Colored pencils or crayons
 Beans, colored toothpicks, pipecleaners, cloth scraps, other decorative materials
 Glue
 Cardboard or poster board for backing outlines

Background Information:

During the 1890s, Mitchell area farmers and business people wanted to attract new settlers to their area. In 1892, Mitchell built its first Corn Palace, decorated inside and out with corn, grain, grasses and straw. Mitchell also held a big fair, the Corn Belt Exposition, to show off the Palace. It was so successful that it became an annual event. In 1905, the Exposition changed its name to the Corn Palace Festival. The Corn Palace on Main Street in Mitchell today has Moorish domes. The colorful murals on the outside of the building are changed most years. Ears of corn are split in half and nailed in place to create the designs. The Corn Palace is an auditorium used for sporting events, concerts, and other community events.

Activity Steps:

1. Share the background information with the group.
2. Examine the Corn Palace photos and discuss:
 - What kind of materials can participants see on the Palace (corn, grass, seeds)
 - What changes are there between the two Corn Palace photos? Has the building changed or is it the same in both photos?
3. Give each participant a Corn Palace outline. They may either color the Corn Palace or glue on decorative materials to create their own Corn Palace. (Note: If gluing items to the outline, it will work best to mount the outline on poster board first). While the real Corn Palace is decorated using natural materials, participants may use any decorative material they want.
4. Have your own “Corn Palace Festival” and have participants show their Palaces to the group.



What Do You See?

A Photograph Analysis Activity

Objectives:

- Participants will analyze a photograph for distinguishing features.
- Participants will point out four visible elements in a photograph.
- Participants will create their own story using a photograph for inspiration.

South Dakota Communication Arts Standards

K	1st	2nd	3rd	4th	5th	6th
K.W.1.1	1.W.1.1	2.W.1.1	3.W.1.3	4.W.1.2	5.W.1.1	6.W.1.1
K.LVS.1.1	1.W.1.2	2.LVS.1.4	3.LVS.1.1	4.LVS.1.1	5.LVS.1.1	6.LVS.1.2
K.LVS.1.6	1.LVS.1.1	2.LVS.1.5	3.LVS.1.3	4.LVS.1.2	5.LVS.1.2	6.LVS.1.3
K.LVS.1.7	1.LVS.1.6	2.LVS.1.6	3.LVS.1.4	4.LVS.1.3	5.LVS.1.3	
				4.LVS.1.4	5.LVS.1.4	

South Dakota Visual Art Standards

	K	1	2	3	4	5	6
Std. 1: Visual arts as communication, benchmark 2	X	X	X	X	X	X	X

Timeframe: 30-60 minutes. Can also be set up as an individual activity center unit.

Materials:

Included in kit:

- All photographs
- What Do You See? worksheet master

Provided by Participants:

- Writing paper and pencil
- Drawing paper, crayons (optional)

Background Information:

Photographs provide much information about South Dakota places. Every photograph contains different visual elements – some are of people, some are of animals, some are of landscape. This activity lets participants practice photo analysis skills. They will provide written details about a photo, and then use a photo as inspiration to create their own original story.

Activity Steps:

1. Set the photos in a place where participants can easily access them. Give each participant a copy of the What Do You See? worksheet.
2. Have participants choose one photograph to analyze. If more than one participant wants to use the same photo, arrange their working space so both can see the photo easily.
3. Participants view their photograph closely and complete the worksheet.
4. Have participants write an original story about their photograph. It should be a minimum of eight sentences. Have them consider the following:
 - What is the setting for their story? Is it a particular place or an event?
 - Who is their main character? Is it a person? An animal? A tree?
 - How does their main character feel? Are they happy? Sad? Scared? Upset?
 - What are the story’s characters doing? How are they acting?

Encourage participants to use active verbs and descriptive language.

5. If desired, participants can illustrate their story with an original drawing.
6. Have participants share their stories and drawings with the group.

Name _____

What Do You See?

Photo Analysis Worksheet

Choose one photograph and study it for a few minutes. Answer the following questions:

1. Was the photograph taken inside or outdoors? _____
2. Can you tell from the photograph what the weather was like on the day it was taken? If so, describe the weather.

3. List four things you can see in the photograph.

4. Are there people in the photograph? _____

5. If yes, what do you think they might be doing?

6. Are they wearing any special clothing or using any special equipment? Describe it.

7. What kind of action is taking place in the photograph? Describe it.

8. Does the photograph look like it was taken recently or sometime in the past? How can you tell?

9. What do you think the photographer was trying to show in the photo? Why might they have wanted to show it?

Symbols of South Dakota

Objectives:

- Participants will identify 18 official South Dakota symbols.
- Participants will correctly match symbols to written clues.
- Participants will read information and recall two facts about each symbol.

South Dakota Communication Arts Standards

K	1st	2nd	3rd	4th	5th	6th
K.LVS.1.6	1.LVS.1.3 1.LVS.1.6	2.LVS.1.3 2.LVS.1.4 2.LVS.1.5 2.LVS.1.6	3.LVS.1.1	4.LVS.1.1 4.LVS.1.2 4.LVS.1.3	5.LVS.1.1 5.LVS.1.2 5.LVS.1.3	6.LVS.1.3

Timeframe: 30-60 minutes. Can also be set up as an individual activity center unit.

Materials:

Included in kit

- 18 South Dakota symbol clue cards
- 18 symbol photographs

Provided by participants

- pencil and paper

Background Information:

Chapter 1-6 of South Dakota’s Codified Laws deals with official state emblems. As new symbols of the state are approved, they are added to the statute. Symbols of the state include the state seal, flag, animal, bird, tree, and many others. In this activity, participants will use written clues to identify eighteen South Dakota symbols. The clues, a photograph, and written descriptions about each symbol give participants enough information to recall at least two facts about each symbol.

Activity Steps:

1. Assemble the group so everyone will be able to hear the clues and see the photographs.
2. The instructor can read each clue card aloud to the group and have them guess what symbol the clues describe. Open the card and read the written information about the symbol. Show the group the photo of each symbol as it is described aloud. Have participants write down each symbol and its category – animal, fish, tree, etc. If preferred, the instructor can pass out the clue cards to the group and have participants read the clues and information aloud.
3. After hearing about the symbols, have a group discussion where participants share two facts about each symbol. Have participants write down two facts they recall about each symbol.
4. Discuss:
 - Which state symbol did participants like the best?
 - What makes something a good symbol of the state?
 - What other things do participants think would make good state symbols? Why?

Where Does South Dakota Wildlife Live?

Objectives:

- Participants will identify at least 15 animals found in South Dakota.
- Participants will identify 8 different animal habitats.
- Participants will match animals with their habitats.

South Dakota Communication Arts Standards

K	1st	2nd	3rd	4th	5th	6th
K.W.1.1 K.LVS.1.6	1.W.1.2 1.LVS.1.3 1.LVS.1.6	2.R.2.2 2.LVS.1.3 2.LVS.1.4 2.LVS.1.6	3.R.2.2 3.LVS.1.1 3.LVS.1.2 3.LVS.1.4	4.LVS.1.1 4.LVS.1.2 4.LVS.1.3	5.LVS.1.1 5.LVS.1.2 5.LVS.1.3	6.LVS.1.3

South Dakota Science Standards

K	1st	2nd	3rd	4th	5th	6th
K.P.1.1 K.L.1.1	1.L.1.3 1.L.3.1	2.P.1.1 2.L.1.2 2.L.3.1 2.L.3.2 2.L.3.3	3.P.1.1 3.L.1.2 3.L.1.3 3.L.2.1 3.L.3.1 3.L.3.2 3.L.3.3	4.L.2.1 4.L.2.2	5.P.1.1 5.L.3.1 5.L.3.3	6.E.1.1 6.S.2.1

South Dakota Visual Art Standards

	K	1	2	3	4	5	6
Std. 1: Visual arts as communication, benchmark 2	X	X	X	X	X		
Std. 1: Visual arts as communication, benchmark 3						X	X

Timeframe: 60 minutes

Materials:

Included in kit

- 17 animal figurines
- 3 animal track sets
- 1 turtle shell
- 21 animal description cards
- 8 habitat posters

Provided by instructor or participants

- crayons
- drawing paper

Background Information:

South Dakota has great places not just for people, but also for many different animals. Animal habitats in the state include wetlands or sloughs, different types of prairie, the rugged Badlands, and the Black Hills. Some animals live in just one habitat while others can make their homes in many different habitats. In this activity, participants will identify some of South Dakota’s animals and match animals to their habitats.

Activity Steps:

1. Set the animal figures, track sets, and turtle shell in a place where the group can see them. Line up the 8 habitat posters so they can be easily seen.
2. Share the background information with the group.
3. The instructor can plan to read the animal description cards aloud to the group or distribute the description cards to the participants and have them do the reading.
4. The instructor or participants will read their animal description cards aloud to the group. After the description is read, have a participant go to the animal figures, tracks, and shell and find the animal item that corresponds with the description.
5. As a group, discuss which habitat the animal belongs in. Some will belong in more than one. Set the animal figure, track, or shell by the habitat poster for that animal.
6. Discuss:
 - What do animals need from their habitat? (food, protection from the weather and predators, a safe place to have their babies)
 - How are the habitats different from each other? Are any of them similar to each other?
 - Is there one habitat that many different animals can live in? Why might that be the case?
 - What kind of animal habitats are there in your area?
7. Have participants draw a picture of their favorite South Dakota animal in its environment.

Sharing Oahe Dam Water

Objectives:

- Participants will explain three effects the dams have had on the Missouri River.
- Participants will identify seven groups that use Oahe dam water.
- Participants will work as a group to decide how to share the water resources.

South Dakota Social Studies Standards						
K	1st	2nd	3rd	4th	5th	6th
	1.C.1.1	2.US.1.2 2.US.2.1	3.US.1.1 3.US.2.2 3.W.1.1 3.E.1.1	4.US.1.1 4.W.2.1 4.G.2.1 4.E.1.1		6.W.2.4 6.E.1.1

South Dakota Communication Arts Standards						
K	1st	2nd	3rd	4th	5th	6th
K.LVS.1.1 K.LVS.1.2 K.LVS.1.6	1.LVS.1.1 1.LVS.1.2 1.LVS.1.3 1.LVS.1.6	2.LVS.1.2 2.LVS.1.3 2.LVS.1.4 2.LVS.1.6	3.LVS.1.1 3.LVS.1.2 3.LVS.1.4	4.LVS.1.1 4.LVS.1.3	5.LVS.1.1 5.LVS.1.2 5.LVS.1.3	6.LVS.1.2 6.LVS.1.3

Timeframe: 30-60 minutes

Materials:

Included in kit

- 7 water user description cards
- 24 water resource share cards

Background Information:

The Missouri was once a wild river. Heavy spring runoffs flooded the towns and farms along its banks. Tons of sediment darkened the water of the “Big Muddy” as it made its way downstream to the Mississippi River.

A plan to control the river was implemented starting in the 1940s. The Pick-Sloan Plan dammed the river. The plan’s goals were to control flooding, provide electric power and make water available for irrigation. Between 1940 and 1963, seven dams were constructed, four of them in South Dakota. Fort Randall Dam was completed near Pickstown in 1952. Three years later Gavins Point Dam went up near Yankton. The largest of the Missouri River dams, Oahe, was built near Pierre in 1958. Big Bend Dam near Ft. Thompson was completed in 1963.

The dams and their large reservoirs have had both good and bad effects. The state’s Indian reservations lost millions of acres when the reservoirs flooded. Entire towns had to be relocated. Much wildlife habitat was lost as well, and species that depended on the wild river suffered. Widespread irrigation never developed. On the plus side, flooding is largely under control. The great reservoir lakes behind the dams provide fishing, boating, and other recreation opportunities. The tamed river provides drinking water via underground pipelines to many of the state’s residents. The dams are a major source for electricity.

For this activity, participants will decide how to split up the water from the Oahe dam to meet a variety of user needs. Every user group cannot have all the water they would like, so the participants will need to work together and compromise to reach some agreement. Everyone may not be happy with the end result.

Activity Steps:

1. Share the background information on the Missouri River and the dams with the group.
2. Have participants verbally share some of the effects building the dams had on the river.
3. Divide participants into 7 groups. Give each group one user description card and two water resource share cards. The instructor holds on to the remaining ten water resource cards. Each user group ideally needs four water shares. Groups may voluntarily give up one of their two shares during the course of the discussion, but every group must hold on to at least one water share.
4. Read the user description card for each water user group aloud to the entire group.
5. Set a discussion time limit, moderate discussion and have the entire group consider:
 - Which users do they think should get more water? Why? If consensus is reached, give additional water share cards as determined by the group.
 - Are some groups willing to give one of their water cards to another group?
 - Does the group think some water needs are more important than others? Why?
 - Four is the ideal number of water shares each user group needs. Are some groups willing to settle for less than the ideal? Three cards instead of four?
6. When time is up, discuss:
 - Was the group able to come to a consensus on how to divide up the water?
 - Did some groups get all the water they wanted? Why or why not?
 - Was it easy to make decisions about who get the water?
 - Were all the participants happy with the final outcome?
 - What did participants learn from this activity?

Something Fishy

Objectives:

- Participants will identify six common fish found in South Dakota.
- Participants will compare fish illustrations and molds and indicate three differences between fish.
- Participants will use a fish mold to create a flour fish print.

South Dakota Communication Arts Standards

K	1st	2nd	3rd	4th	5th	6th
K.LVS.1.1 K.LVS.1.6 K.LVS.1.7	1.LVS.1.4 1.LVS.1.6	2.LVS.1.3 2.LVS.1.4 2.LVS.1.6	3.LVS.1.1 3.LVS.1.2 3.LVS.1.4	4.LVS.1.1 4.LVS.1.3	5.LVS.1.1 5.LVS.1.2 5.LVS.1.3	6.LVS.1.2 6.LVS.1.3

South Dakota Science Standards

K	1st	2nd	3rd	4th	5th	6th
K.P.1.1	1.P.1.1	2.P.1.1 2.L.1.2	3.P.1.1 3.L.1.2			

South Dakota Visual Art Standards

	K	1	2	3	4	5	6
Std. 1: Visual arts as communication, benchmark 3	X	X	X	X	X	X	X

Timeframe: 60 minutes

Materials:

Included in kit

- 6 rubber fish molds
- 6 fish identification sheets

Provided by instructor or participants

- Brown paper bags or brown wrapping paper
- Crayons or markers
- Clear sealing tape OR clear contact paper
- Flour (1-2 cups)
- Newspaper or dropcloth
- transparent tape

Background Information:

South Dakota has many watery places. There are rivers, streams, lakes, ponds, and reservoirs. These places are home to over 100 fish species. Some species can be found all over the state while others are found only in the Missouri River reservoirs or Black Hills streams. In this activity, participants will identify six fish – carp, bluegill, walleye, perch, northern pike, and rainbow trout. They will listen to a description of each fish’s habitat and diet. Participants will compare physical aspects of the fish using colored illustrations and rubber fish molds. Finally, they will create their own flour fish print.

Activity Steps:

1. Before the class meets, set up a workspace with the newspaper or dropcloth to catch stray flour. If using clear contact paper, cut squares large enough to cover the fish mold and have a wide border. Clear sealing tape needs to be cut long enough to cover the fish mold and made into a 3-4 piece wide strip by slightly overlapping strips of tape. The contact paper or sealing tape will pick up the flour from the mold and create the print.
2. Share the background information with the group. Read the description of each fish and hold up the fish mold for that species. After all six descriptions have been read, have participants explain differences they see between the species. They can use the fish molds, illustrations, and descriptions. Differences can be noted in coloring, fins, mouth, or eyes.
3. Give each participant a large piece of paper bag or brown wrapping paper big enough to fit the largest fish mold. Have participants make a fish habitat on the paper with crayons or markers.
4. Six fish prints can be made at one time using the six fish molds. On the newspaper or dropcloth, have participants dust the mold with flour, working it into the face and fins so the details show. Don't cover the mold so completely that you cannot see any details in the fish. Once floured, participants should firmly press their square of contact paper or clear sealing tape onto the flour-covered mold. Be sure to press against the face, fins and tail to get the details. Then press the fish print onto the prepared background. If the fish print doesn't stick well, use transparent tape to keep the print in place. Hang the prints up to create a fish habitat in the room.
5. Discuss:
 - Have participants name the six fish species used for this activity
 - Have them explain in their own words some of the differences between the fish species
 - If they have ever fished, have participants tell about their experience.

South Dakota Places
Photographs



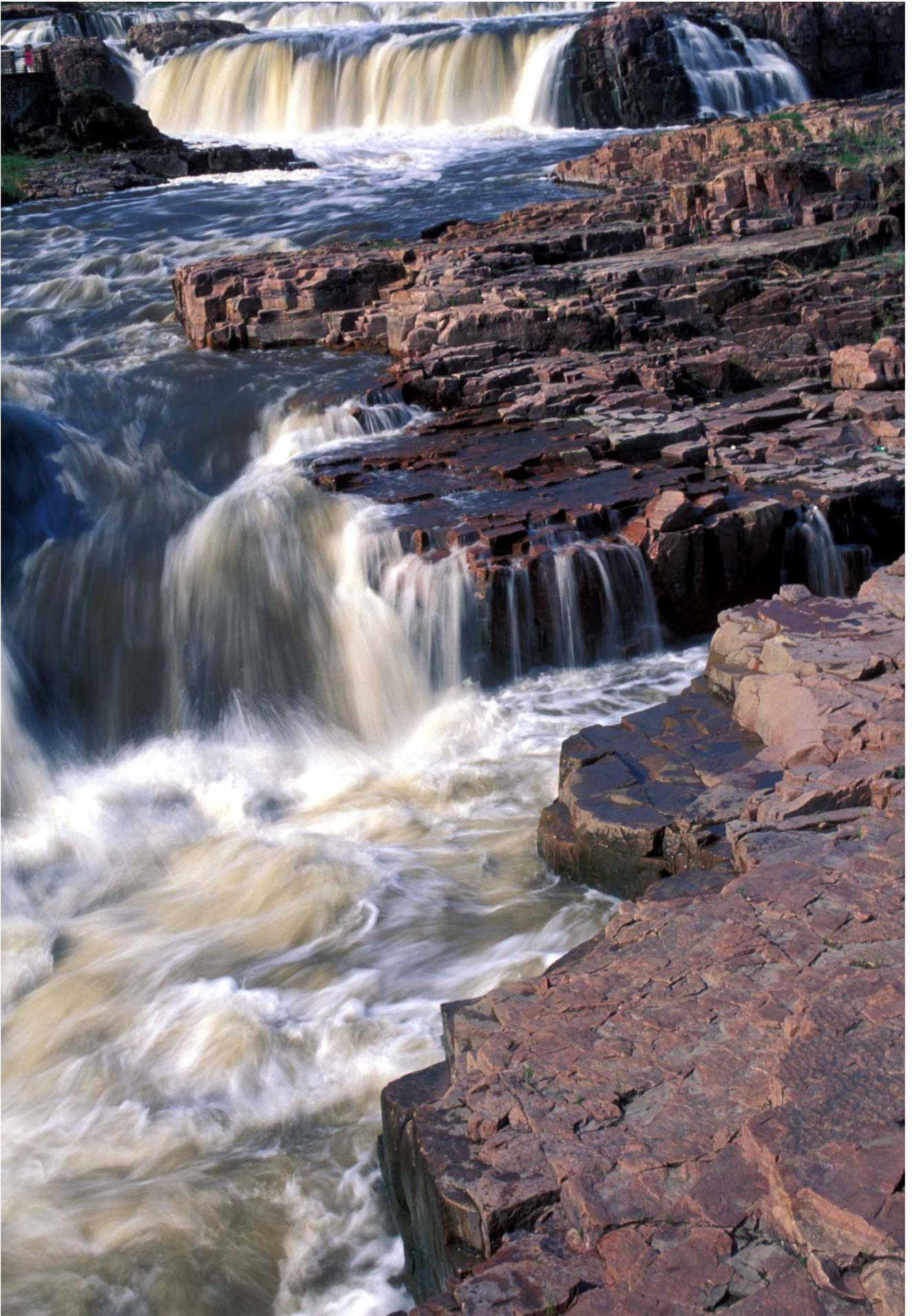




















Bell
Photo
1937

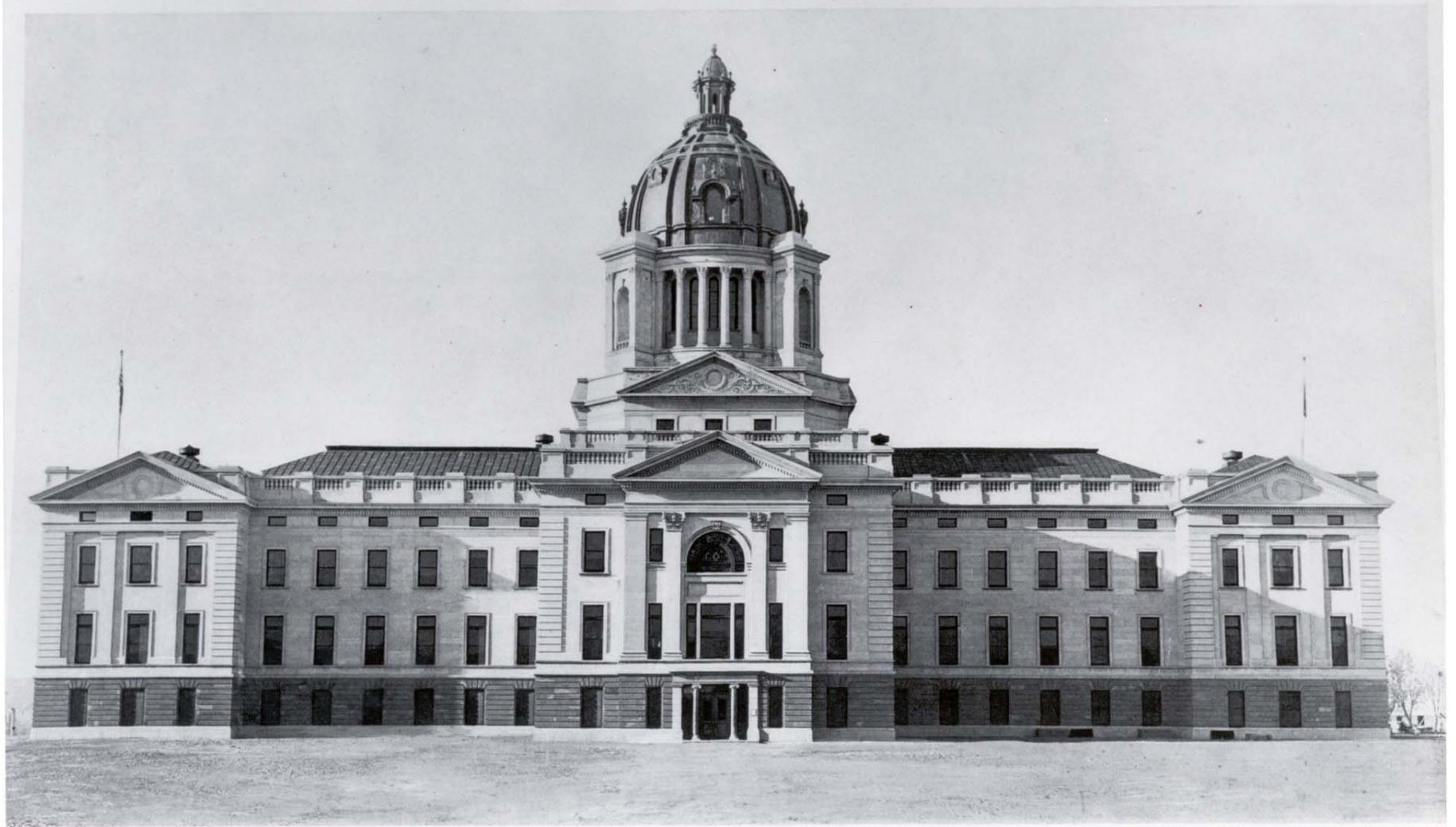












REAR ELEVATION
SOUTH DAKOTA CAPITOL
C. E. BELL, ARCHITECT, OF C. E. BELL, TYRIE AND CHAPMAN, ARCHITECTS, MINNEAPOLIS

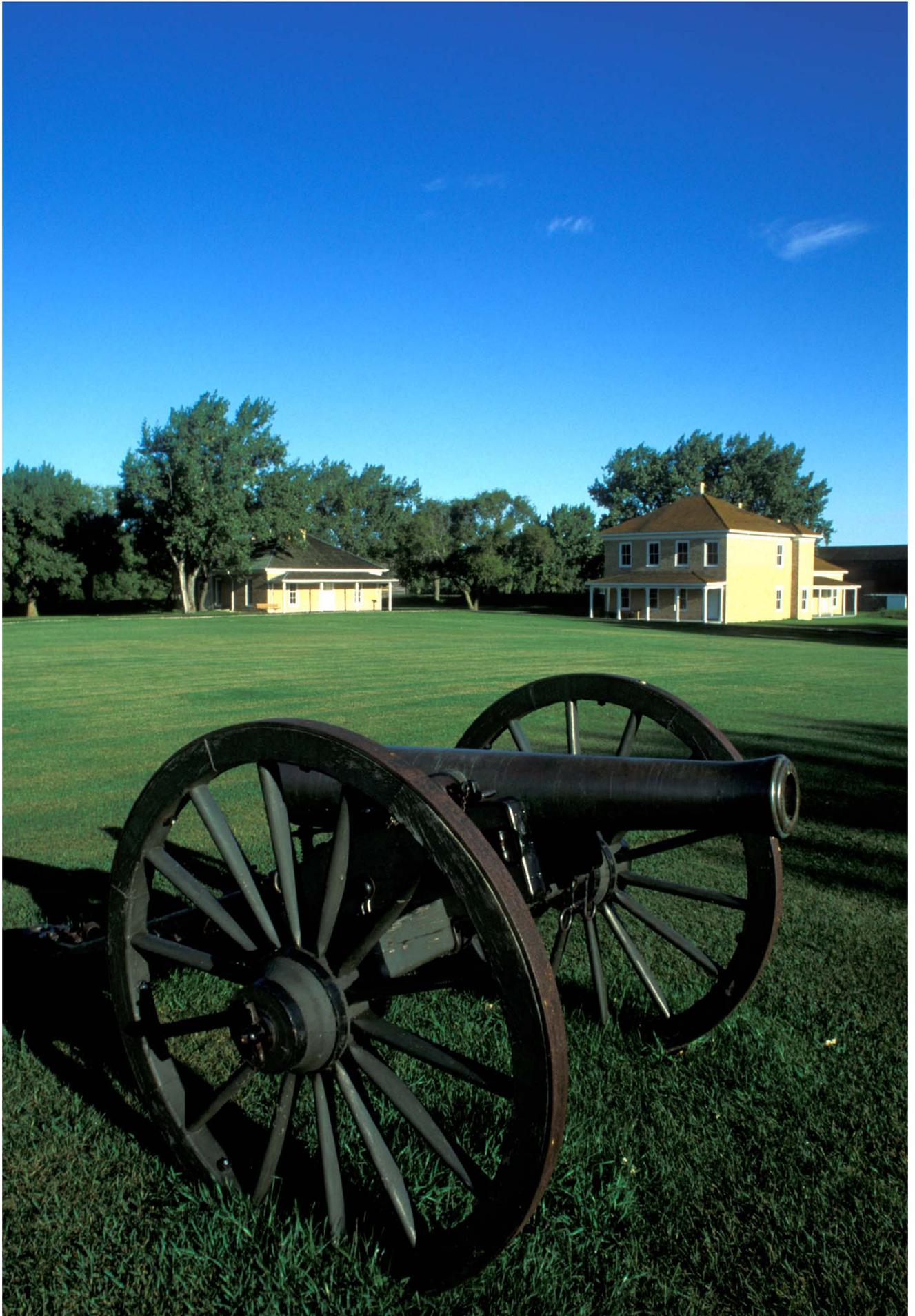




















South Dakota Places Water Uses

Shippers



Photo courtesy of www.transportcafe.co.uk

We need water flowing down the lower Missouri to keep our barges afloat. This requires 4 shares of Oahe water.

Electricity Users

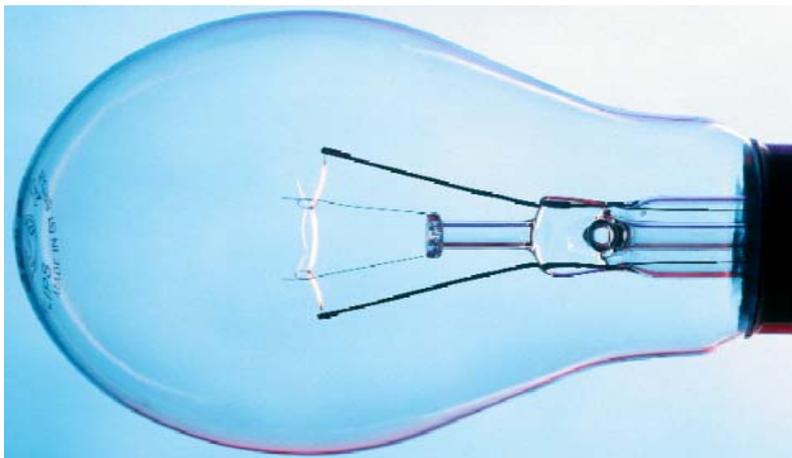


Photo courtesy of DHD Multi-media Gallery: mirror-us-ga1.gallery.hd.org/

We rely on water flowing through the dam's powerhouse for electricity. We need 4 shares of Oahe water.

Recreationists



Photo courtesy of South Whitlock Resort, Gettysburg, SD

We like to boat, fish, and waterski on Lake Oahe. To provide for our recreational needs, our group needs 4 shares of Oahe water.

Irrigators



Photo courtesy of National Jointed Goatgrass Research Program

We want water for our crops, to “bloom the prairie.” Our group needs 4 shares of Oahe water.

Floodplain Residents



Photo courtesy of scijinks.jpl.nasa.gov/weather/

We live in fear of floods. We need the dam to prevent them. We need 4 shares of Oahe water.

Fish & Wildlife



Photo courtesy of National Fish Habitat: fishhabitat.org/

Fish and wildlife need natural seasonal flows that create nesting and spawning habitats. To provide the best habitats our group needs 4 shares of Oahe water.

Water Users



Photo courtesy of Drinking-water.com

We rely on river and reservoir for safe, reliable drinking water. To provide such water our group needs 4 shares of Oahe water.



*One Share
of Water Resources*



*One Share
of Water Resources*

South Dakota Places Habitat Posters

Badlands



- Badlands are formed from eroded clay. The slopes show many bands of color.
- This area may look like a wasteland, but many animals use this habitat. Bats and rodents make their homes here.
- Bigger animals can be found climbing the steep cliffs and browsing on the plants that grow here.

Black Hills



- An area of bare granite spires, heavily-forested slopes, and rolling meadows.
- Annual precipitation is about 20 inches.
- Supports a wide variety of animal and plant life not found anywhere else in the state.

Mixed grass Prairie



- Most of the prairie in South Dakota is this type.
- Grasses can grow between 2 and 4 feet high.
- Average annual rainfall is 20-30 inches per year.

Shortgrass Prairie



- Small pockets of shortgrass prairie are found in the mixed grass prairie. Larger areas are found in the Badlands.
- Grasses grow less than 2 feet high.
- Average annual rainfall is less than 15 inches

Tallgrass Prairie



- Flat or rolling land
- Average rainfall 30-40 inches
- Tallgrass prairie grasses can grow over 5 feet tall
- 10,000 acres preserved in small areas in eastern South Dakota

Wetlands



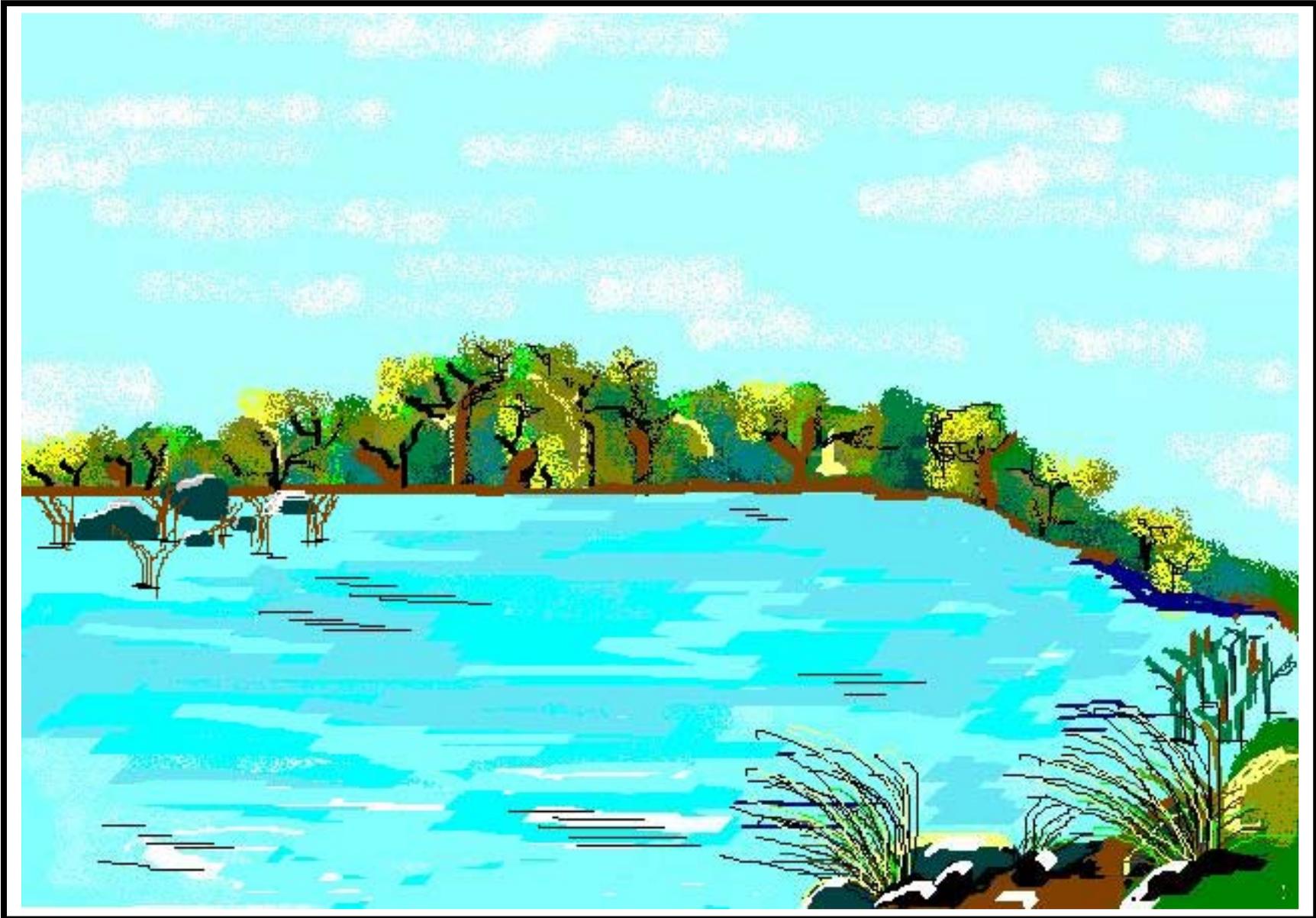
- Land where the water table is usually near the surface or the ground is covered by shallow water.
- Commonly called marshes, sloughs, swamps, and potholes. Many wetlands are actually dry for much of the year.
- Wetlands provide habitat for more than 200 wildlife species in South Dakota.

Woody Draw



- Areas along drainages in the prairie where trees like cottonwoods find enough moisture to live.
- Provide protection from both extreme heat and extreme cold.
- Important habitat for birds as well as mammals.

Aquatic



- Lakes, ponds, reservoirs, rivers, creeks, and stock dams all provide aquatic habitat.
- Aquatic habitats can be found in all parts of South Dakota.
- Water habitats support a wide variety of fish, amphibians, and reptiles. Some mammals also depend on this habitat.