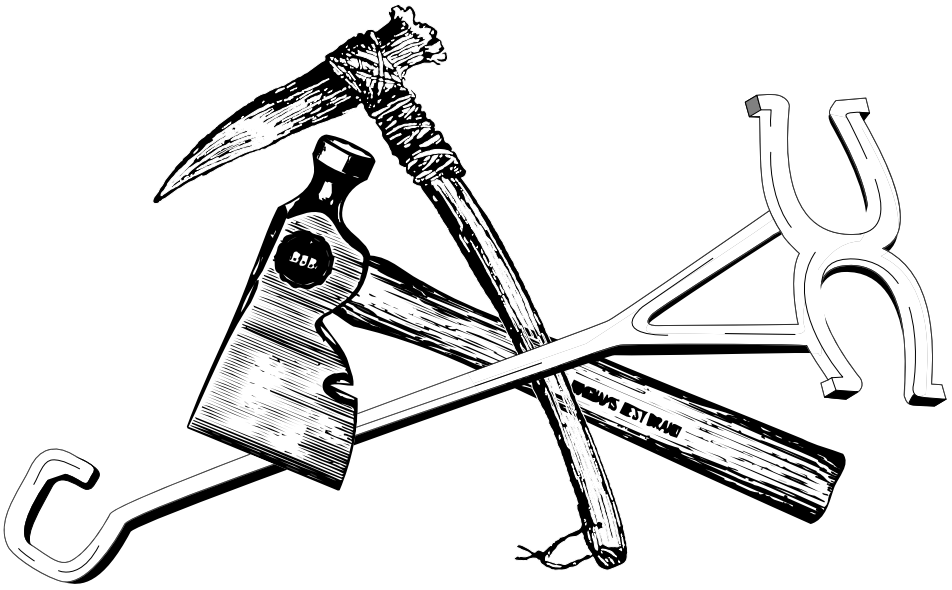
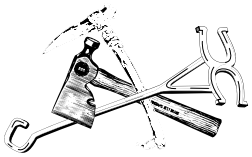
Tools of the Trade:
Montana Industry and Technology



The Montana Historical Society
Education Office
(406) 444-4789
www.montanahistoricalsociety.org

Project Funded by E.L. Wiegand Foundation



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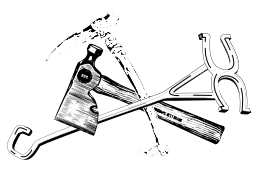


Tools of the Trade Inventory

Borrower: _____ Booking Period: _____

The borrower is responsible for the safe use of the footlocker and all its contents during the designated booking period. Replacement and/or repair for any lost items and/or damage (other than normal wear and tear) to the footlocker and its contents while in the borrower's care will be charged to the borrower's school. **Please have an adult complete the footlocker inventory checklist below, both when you receive the footlocker and when you repack it for shipping, to ensure that all of the contents are intact.** After you inventory the footlocker for shipping to the next location, please mail or fax this completed form to the Education Office.

ITEM	BEFORE USE	AFTER USE	CONDITION OF ITEM	MHS USE
1 E.A. Stephens & Co. Trappers Supply Catalog				
1 trade bead card				
1 beaver pelt				
1 small animal trap				
1 piece of Indian blanket				
2 musket balls				
1 cooking pot				
2 scales				
10 pieces of pyrite				
1 branding iron				
1 railroad spike				
Montana crop sample pictures				

(continued)

Inventory *(continued)*

ITEM	BEFORE USE	AFTER USE	CONDITION OF ITEM	MHS USE
Hats: 1 fur hat 1 cowboy hat 1 miner's hat 1 conductor's hat 1 Fish, Wildlife & Parks hat 1 Forest Service hat				
1 NPR sign				
1 NPR poster				
1 User guide				
2 Padlocks				
13 Photos				

Education Office, Montana Historical Society, PO Box 201201, Helena, MT 59620-1201
Fax: 406-444-2696, Phone: 406-444-9553, MHSeducation@state.mt.us

Teacher's Name _____ Phone number _____

School _____ Footlocker Reservation Dates _____

Footlocker Contents

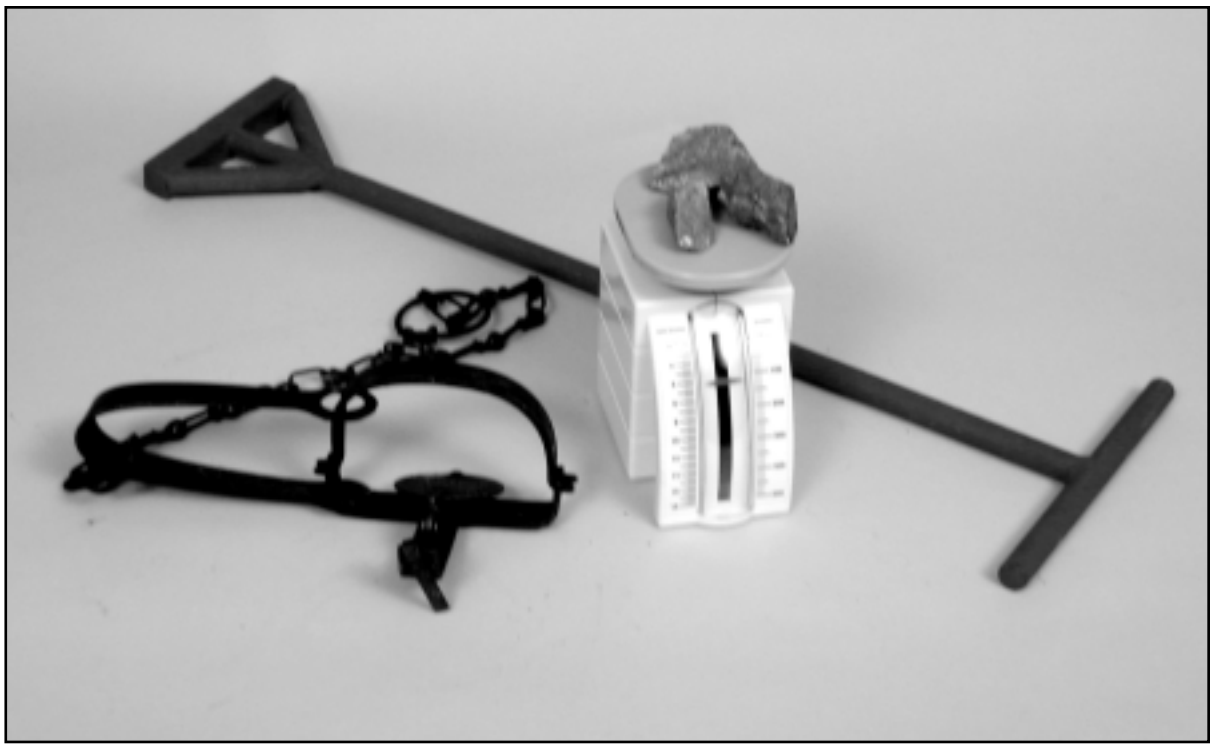
Above:
Fish, Wildlife and Parks Hat, Miner's Hat, Fur Hat, Cowboy Hat, Conductor's Hat, Forest Service Hat

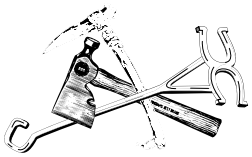
Right:
Beaver Pelt, Trade Bead Card, Cooking Pot, Musket Balls, Trade Blanket

(continued)

Left:
Northern Pacific Railroad Poster and Sign, Railroad Spike

Below:
Small Animal Trap, Scale, Iron Pyrite, Branding Iron





Footlocker Use–Some Advice for Instructors

How do I make the best use of the footlocker?

In this User Guide you will find many tools for teaching with objects and primary sources. We have included teacher and student level narratives, as well as a classroom outline, to provide you with background knowledge on the topic. In section one there are introductory worksheets on how to look at/read maps, primary documents, photographs, and artifacts. These will provide you and your students valuable tools for future study. Section three contains lesson plans for exploration of the topic in your classroom—these lessons utilize the objects, photographs, and documents in the footlocker. The "Resources and Reference Materials" section contains short activities and further exploration activities, as well as bibliographies.

What do I do when I receive the footlocker?

IMMEDIATELY upon receiving the footlocker, take an inventory form from the envelope inside and inventory the contents in the "before use" column. Save the form for your "after use" inventory. This helps us keep track of the items in the footlockers, and enables us to trace back and find where an item might have been lost.

What do I do when it is time to send the footlocker on to the next person?

Carefully inventory all of the items again as you put them in the footlocker. If any items show up missing or broken at the next site, your school will be charged for the item(s). Send the inventory form back to:

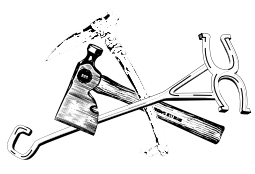
Education Office, Montana Historical Society, Box 201201, Helena, MT 59620-1201 or fax at (406) 444-2696.

Who do I send the footlocker to?

At the beginning of the month you received a confirmation form from the Education Office. On that form you will find information about to whom to send the footlocker, with a mailing label to affix to the top of the footlocker. Please insure the footlocker for $1000 with UPS (we recommend UPS, as they are easier and more reliable then the US Postal Service) when you mail it. This makes certain that if the footlocker is lost on its way to the next school, UPS will pay for it and not your school.

What do I do if something is missing or broken when the footlocker arrives, or is missing or broken when it leaves my classroom?

If an item is missing or broken when you initially inventory the footlocker, **CONTACT US IMMEDIATELY** (406-444-4789), in addition to sending us the completed (before and after use) inventory form. This allows us to track down the missing item. It may also release your school from the responsibility of paying to replace a missing item. If something is broken during its time in your classroom, please call us and let us know so that we can have you send us the item for repair. If an item turns up missing when you inventory before sending it on, please search your classroom. If you cannot find it, your school will be charged for the missing item.



Footlocker Evaluation Form

Evaluator's Name _____ Footlocker Name _____

School Name _____ Phone _____

Address _____ City _____ Zip Code _____

1. How did you use the material? (choose all that apply)

☐ School-wide exhibit ☐ Classroom exhibit ☐ "Hands-on" classroom discussion

☐ Supplement to curriculum ☐ Other_____

2. How would you describe the audience/viewer? (choose all that apply)

☐ Pre-school students ☐ Grade school—Grade____ ☐ High school—Grade____

☐ College students ☐ Seniors ☐ Mixed groups ☐ Special interest

☐ Other_____

2a. How many people viewed/used the footlocker?_____

3. Which of the footlocker materials were most engaging?

☐ Artifacts ☐ Documents ☐ Photographs ☐ Lessons ☐ Video

☐ Audio Cassette ☐ Books ☐ Slides ☐ Other_____

4. Which of the User Guide materials were most useful?

☐ Narratives ☐ Lessons ☐ Resource Materials ☐ Biographies/Vocabulary

☐ Other_____

5. How many class periods did you devote to using the footlocker?

☐ 1-3 ☐ 4-6 ☐ More than 6 ☐ Other_____

6. What activities or materials would you like to see added to this footlocker?

_____

_____

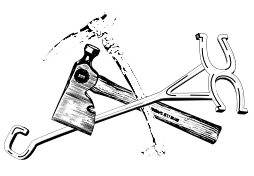
(continued)

7. Would you request this footlocker again? If not, why?

8. What subject areas do you think should be addressed in future footlockers?

9. What were the least useful aspects of the footlocker/User Guide?

10. Other comments.



Montana Historical Society Educational Resources Footlockers, Slides, and Videos

Footlockers

Stones and Bones: Prehistoric Tools from Montana's Past— Explores Montana's prehistory and archaeology through a study of reproduction stone and bone tools. Contains casts and reproductions from the Anzick collection.

Daily Life on the Plains: 1820-1900— Developed by Montana Fish, Wildlife, and Parks, this footlocker includes items used by American Indians, such as a painted deerskin robe, parfleche, war regalia case, shield, Indian games, and many creative and educational curriculum materials.

Discover the Corps of Discovery: The Lewis and Clark Expedition in Montana— Investigates the Corps' journey through Montana and their encounters with American Indians. Includes a Grizzly hide, trade goods, books, and more!

Cavalry and Infantry: The U.S. Military on the Montana Frontier— Illustrates the function of the U. S. military and the life of an enlisted man on Montana's frontier, 1860 to 1890.

From Traps to Caps: The Montana Fur Trade— Gives students a glimpse at how fur traders, 1810-1860, lived and made their living along the creeks and valleys of Montana.

Inside and Outside the Home: Homesteading in Montana 1900-1920— Focuses on the thousands of people who came to Montana's plains in the early 20th century in hope of make a living through dry-land farming.

Prehistoric Life in Montana— Explores Montana prehistory and archaeology through a study of the Pictograph Cave prehistoric site.

Gold, Silver, and Coal—Oh My!: Mining Montana's Wealth— Lets students consider what drew so many people to Montana in the 19th century and how the mining industry developed and declined.

Coming to Montana: Immigrants from Around the World— Montana, not unlike the rest of America, is a land of immigrants, people who came from all over the world in search of their fortunes and a better way of life. This footlocker showcases the culture, countries, traditions, and foodways of these immigrants through reproduction artifacts, clothing, toys, and activities.

(continued)

Montana Indians: 1860-1920— Continues the story of Montana's First People during the time when miners, ranchers, and the military came West and conflicted with the Indians' traditional ways of life.

Woolies and Whinnies: The Sheep and Cattle Industry in Montana—Looks at the fascinating stories of cattle, horse, and sheep ranching in Montana from 1870 to 1920.

The Cowboy Artist: A View of Montana History— Over 40 Charles M. Russell prints, a slide show, cowboy songs, and hands-on artifacts are used as a window into Montana history. Lessons discuss Russell's art and how he interpreted aspects of Montana history, including the Lewis and Clark expedition, cowboy and western life, and Montana's Indians. Students will learn art appreciation skills and learn how to interpret paintings, in addition to creating their own masterpieces on Montana history topics.

The Treasure Chest: A Look at the Montana State Symbols—The Grizzly Bear, Cutthroat Trout, Bitterroot, and all of the other state's symbols are an important connection to Montana's history. This footlocker will provide students the opportunity to explore hands-on educational activities to gain a greater appreciation of our state's symbols and their meanings.

Lifeways of Montana's First People—Contains reproduction artifacts and contemporary American Indian objects, as well as lessons that focus on the lifeways of the five tribes (Salish, Blackfeet, Nez Perce, Shoshone, and Crow) who utilized the land we now know as Montana in the years around 1800. Lessons will focus on aspects of the tribes' lifeways prior to the Corps of Discovery's expedition, and an encounter with the Corps.

East Meets West: The Chinese Experience in Montana— The Chinese were one of the largest groups of immigrants that flocked in to Montana during the 1800s in search of gold, however only a few remain today. Lessons explore who came to Montana and why, the customs that they brought with them to America, how they contributed to Montana communities, and why they left.

Architecture: It's All Around You— In every town and city, Montana is rich in historic architecture. This footlocker explores the different architectural styles and elements of buildings, including barns, grain elevators, railroad stations, houses, and stores, plus ways in which we can keep those buildings around for future generations.

Tools of the Trade: Montana Industry and Technology— Explores the evolution of tools and technology in Montana from the 1600's to the present. Includes reproduction artifacts that represent tools from various trades, including: the timber and mining industries, fur trapping, railroad, ranching and farming, and the tourism industry.

(continued)

SLIDES

Children in Montana— presents life in Montana during the late 1800s and early 1900s through images of children and their written reminiscences.

Fight for Statehood and Montana's Capital— outlines how Montana struggled to become a state and to select its capital city.

Frontier Towns— illustrates the development, character, and design of early Montana communities.

Jeannette Rankin: Woman of Peace— presents the life and political influence of the first woman elected to Congress.

Native Americans Lose Their Lands— examines the painful transition for native peoples to reservations.

Power Politics in Montana— covers the period of 1889 to the First World War when Montana politics were influenced most by the copper industry.

The Depression in Montana— examines the impact of the Depression and the federal response to the Depression in Montana.

The Energy Industry— discusses the history and future of the energy industry in Montana.

Transportation— describes how people traveled in each era of Montana's development and why transportation has so influenced our history.

(continued)

VIDEOS

Capitol Restoration Video— shows the history, art, and architecture of Montana's State Capitol prior to the 1999 restoration. Created by students at Capital High School in Helena.

"I'll ride that horse!" Montana Women Bronc Riders— Montana is the home of a rich tradition of women bronc riders who learned to rope, break, and ride wild horses. Their skill and daring as horsewomen easily led to riding broncs on rodeo circuits around the world. Listen to some to the fascinating women tell their inspiring stories.

Montana: 1492— Montana's Native Americans describe the lifeways of their early ancestors.

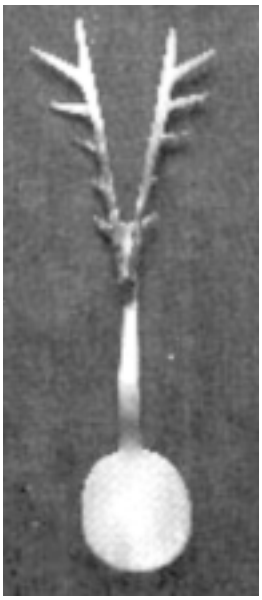
People of the Hearth— features the role of the hearth in the lives of southwestern Montana's Paleoindians.

Russell and His Work— depicts the life and art of Montana's cowboy artist, Charles M. Russell.

The Sheepeaters: Keepers of the Past— When the first white men visited Yellowstone in the early nineteenth century, a group of reclusive Shoshone-speaking Indians known as the Sheepeaters inhabited the Plateau. They had neither guns nor horses and lived a stone-age lifestyle, hunting Rocky Mountain Bighorn sheep for food and clothing. Modern archaeology and anthropology along with firsthand accounts of trappers and explorers help to tell the story of the Sheepeaters.

Primary Sources and How to Use Them

The Montana Historical Society Education Office has prepared a series of worksheets to introduce you and your students to the techniques of investigating historical items: artifacts, documents, maps, and photographs. The worksheets introduce students to the common practice of using artifacts, documents, maps, and photographs to reveal historical information. Through the use of these worksheets, students will acquire skills that will help them better understand the lessons in the User Guide. Students will also be able to take these skills with them to future learning, i.e. research and museum visits. These worksheets help unveil the secrets of artifacts, documents, maps, and photographs.



MONTANA HISTORICAL SOCIETY

See the examples below for insight into using these worksheets.

Artifacts

Pictured at left is an elk-handled spoon, one of 50,000 artifacts preserved by the Montana Historical Society Museum. Here are some things we can decipher just by observing it: It was hand-carved from an animal horn. It looks very delicate.

From these observations, we might conclude that the spoon was probably not for everyday use, but for special occasions. Further research has told us that it was made by a Sioux Indian around 1900. This artifact tells us that the Sioux people carved ornamental items, they used spoons, and they had a spiritual relationship with elk.

Photographs

This photograph is one of 350,000 in the Montana Historical Society Photographic Archives. After looking at the photograph, some of the small "secrets" that we can find in it include: the shadow of the photographer, the rough fence in the background, the belt on the woman's skirt, and the English-style riding saddle.

Questions that might be asked of the woman in the photo are: Does it take a lot of balance to stand on a horse, is it hard? Was it a hot day? Why are you using an English-style riding saddle?

MONTANA HISTORICAL SOCIETY

(continued)

MONTANA HISTORICAL SOCIETY

Documents

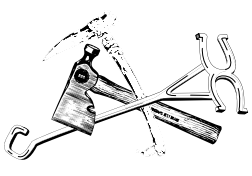
This document is part of the Montana Historical Society's archival collection. Reading the document can give us a lot of information: It is an oath pledging to catch thieves. It was signed by 23 men in December of 1863. It mentions secrecy, so obviously this document was only meant to be read by the signers.

Further investigation tell us that this is the original Vigilante Oath signed by the Virginia City Vigilantes in 1863. The two things this document tell us about life in Montana in the 1860s are: there were lots of thieves in Virginia City and that traditional law enforcement was not enough, so citizens took to vigilance to clean up their community.

Maps

This map is part of the map collection of the Library of Congress. Information that can be gathered from observing the map includes: The subject of the map is the northwestern region of the United States—west of the Mississippi River. The map is dated 1810 and was drawn by William Clark. The three things that are important about this map are: it shows that there is no all-water route to the Pacific Ocean, it documents the Rocky Mountains, and it shows the many tributaries of the Missouri River.

LIBRARY OF CONGRESS



How to Look at an Artifact

(Adapted from the National Archives and Records Administration Artifact Analysis Worksheet.)

Artifact: An object produced or shaped by human workmanship of archaeological or historical interest.

1. What materials were used to make this artifact?

☐ Bone	☐ Wood	☐ Glass	☐ Cotton
☐ Pottery	☐ Stone	☐ Paper	☐ Plastic
☐ Metal	☐ Leather	☐ Cardboard	☐ Other_____

2. Describe how it looks and feels:

Shape _____ Weight _____

Color _____ Moveable Parts _____

Texture _____ Anything written, printed, or stamped on it

Size _____ _____

Draw and color pictures of the object from the top, bottom, and side views.

Top	Bottom	Side

(continued)

3. Uses of the Artifacts.

A. How was this artifact used? _____

B. Who might have used it?_____

C. When might it have been used?_____

D. Can you name a similar item used today? _____

4. Sketch the object you listed in question 3.D.

5. Classroom Discussion

A. What does the artifact tell us about technology of the time in which it was made and used?

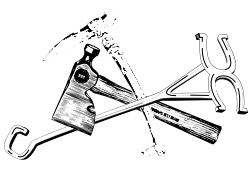
_____

_____

B. What does the artifact tell us about the life and times of the people who made and used it?

_____

_____



How to Look at a Photograph

(Adapted from the National Archives and Records Administration Photograph Analysis Worksheet.)

Photograph: an image recorded by a camera and reproduced on a photosensitive surface.

1. **Spend some time looking at the whole photograph. Now look at the smallest thing in the photograph that you can find.**

   What secrets do you see? _____

   _____

   _____

2. **Can you find people, objects, or activities in the photograph? List them below.**

   People _____

   _____

   Objects _____

   _____

   Activities _____

   _____

3. **What questions would you like to ask of one of the people in the photograph?**

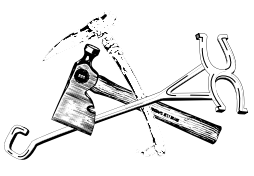
   _____

   _____

4. **Where could you find the answers to your questions?**

   _____

   _____



How to Look at a Written Document

(Adapted from the National Archives and Records Administration Written Analysis Worksheet.)

Document: A written paper bearing the original, official, or legal form of something and which can be used to furnish decisive evidence or information.

1. Type of document:

☐ Newspaper ☐ Journal ☐ Press Release ☐ Diary

☐ Letter ☐ Map ☐ Advertisement ☐ Census Record

☐ Patent ☐ Telegram ☐ Other_____

2. Which of the following is on the document:

☐ Letterhead ☐ Typed Letters ☐ Stamps

☐ Handwriting ☐ Seal ☐ Other _____

3. Date or dates of document:_____

4. Author or creator:_____

5. Who was supposed to read the document?_____

_____

6. List two things the author said that you think are important:

1. _____

2. _____

7. List two things this document tells you about life in Montana at the time it was written:

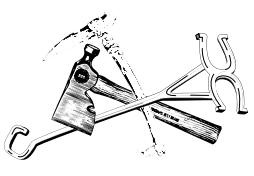
1. _____

2. _____

8. Write a question to the author left unanswered by the document:

_____

_____



How to Look at a Map

(Adapted from the National Archives and Records Administration Map Analysis Worksheet.)

Map: A representation of a region of the earth or stars.

1. What is the subject of the map?

- ☐ River
- ☐ Stars/Sky
- ☐ Mountains
- ☐ Prairie
- ☐ Town
- ☐ Other _____

2. Which of the following items is on the map?

- ☐ Compass
- ☐ Scale
- ☐ Name of mapmaker
- ☐ Date
- ☐ Key
- ☐ Other _____
- ☐ Notes
- ☐ Title

3. Date of map: _____

4. Mapmaker: _____

5. Where was the map made: _____

6. List three things on this map that you think are important: _____

_____

_____

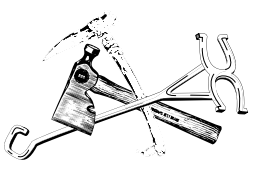
_____

7. Why do you think this map was drawn? _____

_____

8. Write a question to the mapmaker that is left unanswered by the map.

_____



Standards and Skills

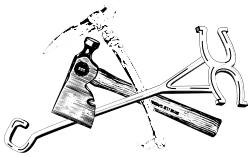
State 4th Grade Social Studies Standards

Lesson Number:	1	2	3	4	5	6	7
Students access, synthesize, and evaluate information to communicate and apply social studies knowledge to real world situations.	✔	✔	✔	✔	✔		✔
Students analyze how people create and change structures of power, authority, and governance to understand the operation of government and to demonstrate civic responsibility.		✔			✔		
Students apply geographic knowledge and skill (e.g., location, place, human/environment interactions, movement, and regions).		✔	✔	✔		✔	✔
Students demonstrate an understanding of the effects of time, continuity, and change on historical and future perspectives and relationships.			✔	✔	✔		✔
Students make informed decisions based on an understanding of the economic principles of production, distribution, exchange, and consumption.		✔	✔	✔		✔	✔
Students demonstrate an understanding of the impact of human interaction and cultural diversity on societies.	✔	✔			✔		

(continued)

Skill Areas

Lesson Number:	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Using primary documents		✔			✔		✔
Using objects		✔	✔		✔	✔	✔
Using photographs	✔	✔		✔	✔		✔
Art	✔				✔	✔	✔
Science	✔		✔				
Math		✔	✔				
Reading/writing	✔	✔					✔
Map Skills		✔	✔			✔	
Drama, performance, re-creation		✔					✔
Group work		✔	✔				✔
Research	✔					✔	✔
Music							
Bodily/Kinesthetic							
Field Trip					✔	✔	✔



Historical Narrative for Fourth Graders

Early Native Americans

When the early fur trappers and Lewis & Clark traveled across Montana, they weren't alone. Many different Native American tribes had been here for thousands of years. Anthropologists believe that Native Americans came to the United States from Siberia. Some believe they crossed a land bridge between Siberia and Alaska over 15,000 years ago, following and hunting big game, while others think that they arrived by boat between 12,000 and 60,000 years ago. The first Montanans created tools that greatly assisted their everyday lives. Antler, bone, and stone tools were just some of the early tools that helped in their search of food and every day, as well as their ceremonial, lives.

Montana's Top Industries

Montana has become the state it is today through the hard work of men and women trying to make this rugged place their home. To better tame and work the land, people have been creating tools and bettering technology. This footlocker – *Tools of the Trade: Montana Industry & Technology* – celebrates some of the technological advances and tools of the 19th and 20th centuries created for use in the state we call home. These industries, technologies, and tools helped shape Montana. Most of the industries showcased in this trunk are still in place today in Montana. Tourism, agriculture, timber, and the railroad are still industries that we count on today. Gold mining and fur trapping are still in existence, but on a more recreational level.

MONTANA HISTORICAL SOCIETY

Placer mining near Lewistown, Montana, 1888.

Tourism – The First Tourists

The first tourists to Montana were Lewis & Clark and the Corps of Discovery. The Corps traveled across Montana twice during 1804-6. They encountered Native Americans, strange new animals and plants, and beautiful landscapes. By the time the Corps was returning home to Missouri, fur trappers and homesteaders were making their way westward towards our great state in search of new opportunities and fortunes. Lewis & Clark paved the way for future tourists and began what has become Montana's second most important industry today. In 1995, tourism brought about $1.22 billion to the state from nonresident visitors. Today visitors come to watch our wildlife, hike in one of our five national parks or monuments, and spend time in our popular attractions like the Fort Peck Dam, the Montana Historical Society, or Lewis & Clark Caverns State Park.

Fur Trappers

Although Europeans, especially French fur trappers, had discovered Montana's wealth of small fur bearing animals in the mid-1700s, it wasn't until after the Corps of Discovery's travels to Montana that white American trappers from eastern states started flocking to our state. Early fur trappers bartered at

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trading posts and with many different Native American tribes that were in search of European and U.S. goods like trade beads, guns, ammunition, cooking pots, and blankets.

The Gold Rush

It wasn't until the 1860s that thousands of people came to Montana in search of their fortune during the Gold Rush. People came from across the United States from mining states like California, Nevada, Idaho, and Colorado as well as from other countries, oftentimes-spending weeks or months en route. Lone prospectors panned for gold. Placer and hydraulic mines were set up across southwestern Montana, where large mining camps were created to house the many men needed to mine. Many people became rich from Montana gold. Congress made Montana a territory in 1864, due to the many people who came here in search of gold.

Timber! The Lumber Industry

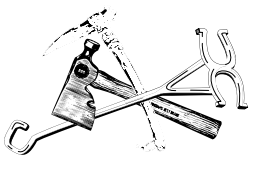
After the Gold Rush was over and gold mines began to shut down, many former gold miners went to work for the timber industry. Timber wasn't a new industry, as miners needed wood for many things such as homes, stores, and sluice boxes. But it wasn't until gold mining was ending that timber mills started popping up where the gold mines were. These well-established areas contained most everything needed for a mill town – water, homes, and stores. Once the Gold Rush ended, the big demand for lumber began to die – until the copper mining boom. Hard rock copper mining required much wood for the mines and smelters. But another industry required even more wood - the railroad needed wood for rail ties, fuel, tunnels, and construction. In fact, so much wood was being used to keep the railroad going, that in 1892 the USDA National Forest Service was created to better control Montana's use of lumber for our booming industries.

Agriculture: Farming and Ranching

Agriculture is by far Montana's number one industry. From cattle ranching and raising sheep and pigs to farming numerous crops, Montana is rich in its agriculture-producing lands. In 2001 there were almost 28,000 farms and ranches in Montana alone. Almost 65% of Montana's land is used for agriculture. Rich land to yield good crops was one of the reasons so many people wanted to homestead to Montana. For example, Montana has very good conditions for growing wheat. Wheat has been and still is Montana's biggest producing crop. But many other crops are grown here from corn and oats to flaxseed and niche crops like mint. Cattle are the number one livestock raised in Montana, but sheep, pigs, horses, and llamas are raised here too. In the 1850s, Johnny Grant brought the first cattle into Montana from Oregon. Soon after, Nelson Story drove hundreds of head of cattle from Texas through Montana. The rest is history!

All Aboard! The Railroad Industry

Montana is one of the largest states in the country. An easy and reliable way to travel was necessary for Montanans to get across the state. The Northern Pacific Railroad was just one of seven railway systems in place in Montana during the late 1800s and early 1900s. Through Montana and Idaho, the Northern Pacific Railroad received twice as much land as the Union Pacific Railroad. This transcontinental railroad, the Northern Pacific Railroad, was finally completed in September of 1883, due in part to Henry Villard taking over the board of directors and becoming president in 1881. The traditional gold spike was driven in place at Gold Creek located about 60 miles west of Helena, Montana.



Historical Narrative for Instructors

Early Native Americans

When the early fur trappers and Lewis & Clark traveled across Montana they weren't alone. Many different Native American tribes had been here for thousands of years. Anthropologists believe that Native Americans came to the United States from Siberia. Some believe they crossed a land bridge between Siberia and Alaska over 15,000 years ago following and hunting big game, while others think that they arrived by boat between 12,000 and 60,000 years ago. Regardless, the first Montanans created tools that greatly assisted their subsistence in their new home. Atlatls, antler, bone, and lithic or stone tools, were just some of the early tools that helped greatly in their search for and preparation of food, and in their ceremonial lives.

Lewis & Clark: Montana's First Tourists

President Thomas Jefferson asked two military captains to lead the first ever "tour" of the western part of the United States. Captains Lewis & Clark and the Corps of Discovery began their trip in St. Louis, Missouri, on May 14, 1804 and did not return until September 23, 1806. The Corps, including Lewis & Clark, Sacagawea, her husband Charbonneau and son Pomp, Clark's man-servant York, 26 "enlisted" men and a pet New Foundland dog visited many states, but spent a considerable amount of time in Montana.

No one had ever ventured as far as the Corps was going. From St. Louis to the Pacific Ocean – it was an almost unimaginable distance to travel. Several of the Corps were ordered to keep a journal, as they were heading into unchartered territory and knew the journey would be difficult – if only one of their journal's survived, President Jefferson would have been happy. But to his surprise six of the journals made it safely back to Missouri.

Because they were to be gone so long and had so many in their party, the Corps had to take plenty of supplies with them. When the Corps left St. Louis, they had enough supplies that could have filled a 24-foot U-Haul truck. They brought food, clothing, ammunition, and medicine. Trade items were included because they knew that they would have to rely on Native Americans for horses and assistance along the way. Additional paper, ink (because there weren't pens back then), sewing supplies, tools, and scientific instruments were also taken. Although some of the supplies were cached for their return trip home, much was taken with them on boats and carried over land.

Today, "largely because of the scenery, recreation is one of the primary uses of Montana's forests. Of the 22.5 million acres of forest land, over 16 million are public, managed by the U.S. Forest Service, National Park Service, Bureau of Land Management, State of Montana, or counties and municipalities. The state has over 3 million acres of designated wilderness and another 4 million acres that are specially managed for resource protection. Seven percent of Montana's private land -- about 4 million acres -- is officially open (through agreements with the state) to public recreation. The primary uses of forest land in the state are hunting, fishing, hiking, camping, wildlife viewing, skiing, biking, horseback riding, rock climbing, mountaineering, picnicing, boating, swimming, and rock hounding. The people engaged in these activities come from across the nation and beyond. In 1994, about 9 million people visited Montana. The figure is over ten times the number that actually live in the state," Fish Wildlife & Parks website.

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Fur Trappers & Traders

Traders from St. Louis established the first trading posts in Montana in 1807 (Bighorn River) and in Three Forks by 1810. By 1829, the American Fur Company had built Fort Union at the mouth of the Yellowstone River. This large fort dominated fur-trading activities in the region for five decades. Furs were one type of goods that were exchanged at trading posts. People bartered for items instead of using money.

About 2,000 trappers were in the Montana region during the 19th century. Why did they come? By the time the Lewis & Clark Expedition returned to St. Louis, white trappers were creeping into Montana in search of the many fur bearing animals the Corps of Discovery wrote about in their journals. The news had gotten out and trappers were beginning to flood Montana.

White trappers relied much on local Native American tribes, trading items for various types of furs. In exchange, Native Americans traded furs for European and U.S. goods such as guns, ammunition, axe heads, kettles, fire kits, needles, beads, cloth, and blankets. Some trading was done at trading posts, some done between individuals outside the posts. These items were used in every day life as well as for special ceremonies. This trading had a tremendous effect on Native Americans. Many became ill from contact with white men and diseases they had never been exposed to.

Montana Gold Rush

Numerous types of mines and various techniques for mining have been utilized to extract precious materials from Montana. The state is home to over 40 minerals, metallic ores, and energy resources such as agate, sapphires, petroleum, and copper. Western, central, and eastern Montana all differ in the minerals they contain. The differences are related to the geology and structure of rock formations found in each region. Petroleum and natural gas is primarily found in central Montana. In addition, some metallic ore deposits and clay have also been found in this part of the state. The majority of coal (90%) is found in eastern Montana. Montana is home to the largest reserve of coal in the United States, estimated at 120 billion tons. Western Montana contains a wide array of metallic ores and minerals, and the state's largest gold deposits.

It was the gold rushes of the mid- to late-1860s that brought so many people to Montana. The first big gold rush in Montana was on the Gold Creek in 1862. Over two years time, thousands of miners flocked to Montana in search of their fortune. "Many came to apply themselves to the hard work of placer mining, but some came to get their gold the easy way – through robbery and trickery. Incidents ranged from minor thefts to brutal murders, resulting in the organization of the 'Vigilantes.' Trading and mercantile centers sprang up to serve the gold camps. Extensive and varied agricultural ventures developed in the southwestern mountain valleys to meet the needs of the placer mining boom. Several flour mills operated there by the late 1860s. [But] of the more than five hundred mining camps that dotted the western mountains, only a few, such as Butte and Helena, survived to become modern towns," *Montana Almanac*.

From Gold Mines to Lumber Mills

Lumbering was a very important industry for Montana. Towns like Helena, Missoula, and Hamilton were large lumbering towns and sites where many trees were harvested.

The first sawmill in Montana was near St. Mary's Mission in the Bitterroot Valley. Father Ravalli built it in 1845. During the gold rush, mills produced 13 million board feet of lumber to support the miners, as they needed homes, sluice boxes, and stores. However, as the numerous placer gold mines began to close during the 1870s and '80s, the lumber mills were abandoned.

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Two new industries revived the timber industry in the late 1880s. Hard rock copper mining required as much wood for mining as for the smelters. And the introduction of the railway system in Montana put a huge demand on wood for rail ties, fuel, tunnels, and construction.

Today, twenty-two million acres in Montana are forested (that's about 24% of Montana's land mass) and 3.4 million is forested land reserved in wilderness areas, national parks, and national monuments. The USDA Forest Service manages nine different forests in Montana to ensure we do not deplete the forest, as was beginning to happen in the late 1800s and the beginning of the 20th century. Our forests are managed so that future generations can enjoy the diverse beauty of Montana forests for years to come.

Agriculture: Livestock Branding

The origin of branding livestock dates from 2700 B.C. to the Egyptians. Ancient Romans also marked livestock with a hot iron. For many years Montana cattle ranchers and their cowboys have branded livestock – most oftentimes cattle and horses. Brands are a small symbol used to mark animals belonging to a particular ranch or family.

Brands are administered by branding irons. The irons that were used in the 1800s were made of metal. Most irons used today are still made of metal. Cattle branding irons generally have a face at least $\frac{3}{8}$ inches thick. The symbols (letters, numbers, figures, or characters) are about 4 inches in length, however, horse brands were slightly smaller. Many of the same Montana brands and branding irons from the 1800s are still in use today.

Calves and foals were usually (and still are) branded in the early summer, before they get too big to wrestle. The brand was set inside a blazing fire, until it glowed red. When the brand was ready, one or two cowboys would hold the animal down while another one administered the brand.

In order to leave a good brand and to ensure the animal is not harmed, the branding iron has to be very hot. If it isn't hot enough, the brand won't properly burn into the animal's hide and must be done over. This could harm the hide, making it harder to sell as leather and also hurt the animal. Infection is also possible if a branding iron isn't administered hot enough. The hair on the hide and outer layer of skin may become infected, often making the animal very sick. And of course, the brand can't be too hot either because then it could really hurt the animal. Getting the branding iron to the perfect temperature is very important.

Branding is the best and sometimes only way of proving ownership of lost or stolen animals. An unbranded animal is almost impossible to legally identify. No other way is as easily visible as branding, not only for identification, but as a deterrent to theft. Today, many ranchers are using ear tags or tattoos to "brand" their livestock. However, many ranchers still rely on the traditional hot branding iron to mark their animals.

Agriculture: Montana's Great Grains

"Agriculture has been Montana's #1 industry for almost a century, and farming and ranching have both played a big role in the economy and culture of Montana – both the state and the territory. The promise of practicing agriculture has lured a great number of people to Montana over the years, especially during the homestead boom of the early part of this century. The farmers and ranchers of today practice sound land and water stewardship and tap into the global marketplace in order to remain competitive," *Montana Almanac*.

Montana's total land area is 147,046 square miles. However, over half of this area is above 5,000 feet in altitude, restricting its growing season. This area is extremely

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valuable for timber harvesting and grazing. We are very lucky in Montana – our soil is rich in nutrients and where temperature allows, crops tend to grow well. Because of the severe climate, Montana's hardiest crops have always been her best. In the southern counties, where the growing season is longer but rainfall even scantier, more land has been reserved for grazing. On the milder and moister western slopes, much fruit has been grown. The rich dark loam of the Gallatin and other sheltered valleys east of the divide produced the state's finest and most varied crops of grain, fruit, and vegetables.

"Montana's major crop has been and continues to be wheat. In 1995 wheat accounted for almost 68% of cash receipts from crops. The 1995 wheat crop was the most valuable ever, reaching a record $897.4 million. Almost 86% of Montana's agricultural exports in 1995 were wheat and wheat products," *Montana Almanac*.

Montana grows many other crops as well. Her top crops are wheat (winter and spring), alfalfa, barley, oats, flax seed, dry beans, potatoes, sugar beets, and corn. The crops grown in Montana are as diverse as her land is!

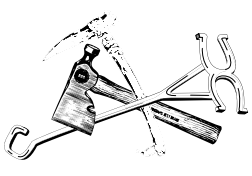
Montana Railroad

"In 1887, James J. Hill made railroad history when his crew of 9,000 men finished the 550-mile line of the St. Paul, Minneapolis, & Manitoba Railroad from Minot, North Dakota, to Great Falls in less than eight months. Helena's Col. Charles Broadwater completed Hill's Montana Central line from Great Falls to Butte, via Helena in 1889. This hard-won route provided Hill and the copper kings with a direct shipping route to the Great Lakes.

That same year, Hill and his associates consolidated their holdings to form the Great Northern Railway Company. This company expanded westward from Havre over Marias Pass through Columbia Falls and Kalispell and into Idaho. It reached Seattle in 1893. The well-managed Great Northern Railway Company not only survived the nationwide depression of 1893-94, but Hill and associates acquired controlling shares of the troubled Northern Pacific. The Great Northern and Northern Pacific were known as the 'Hill Lines,' and Hill was crowned the 'Empire Builder.'

The Chicago, Burlington & Quincy Railroad reached the Montana site of Huntley in 1894, with an agreement to use Northern Pacific tracks into Billings. In 1901 Hill and the other owners of Great Northern and Northern Pacific purchased control of the Burlington, which had a direct connection to Chicago. In 1969 these holdings became the Burlington Northern. The Chicago, Milwaukee and St. Paul Railway Company, 'the Milwaukee Road,' completed a line through central Montana and along the Clark Fork River to Seattle in 1909. This railroad was the last main line construction in Montana but made history as the first long-distance electrified rail span in America," *Montana Almanac*.

And people can still travel on the railroad today! AMTRAK (National Railroad Passenger Service) has passenger service across northern Montana with final destinations in Portland and Seattle in the west and Chicago and Minneapolis/St. Paul to the east. The "Empire Builder" train has sleeper cars called "Pullmans" and coach seating with comfortable, reclining chairs. Taking the train is not only a great way to travel effortlessly, but it's fairly inexpensive, and allows passengers to view spectacular scenery without having to drive.



Outline for Classroom Presentation

I. First Montanans

A. The first Montanans, Native Americans, made tools and advanced their technology to help procure food, create shelter and clothing, and to assist in their ceremonial lives.

II. Montana Gets Put "On the Map"

A. Captains Lewis & Clark and the Corps of Discovery were the first real "tourists" in Montana during 1804-6.
   1. Armed with journals, several members of the Corps record their travels and strange new plants and animals they encounter.
   2. The Corps is friendly to Native Americans, relying upon them for many goods, food, and horses. They begin a good trade network.
   3. Upon returning to St. Louis, the journals (as well as scientific specimens) are shared with the world.

B. Tourism is Montana's #2 industry today.

III. The Fur Trade

A. European, mainly French, fur trappers arrive in Montana during the late 1700s early 1800s.

B. Fur trappers and traders follow the Corps' trail to Montana in pursuit of valuable beaver pelts.

C. The first Montana trading post is created in 1807 on the Bighorn River.

D. The American Fur Company built Fort Union north of the Yellowstone River by 1829. It dominated the fur trade for 50 years.

IV. Gold Rush Years

A. Montana's Gold Rush brings thousands of people to the state during the mid- to late 1860s.

B. Hard placer and hydraulic mining takes place in Montana until the late 1870s and early '80s.

C. Most gold mines shut down across Montana and the towns are reinvented in late 1880s.

V. Lumber Industry

A. Lumber mills were located near mining towns to meet the miners' demand for wood.

B. When mines close, lumber mills struggle and many companies shut down.

C. The copper and railroad industries of the 1880s revive the lumber industry and more mills were created to keep up with the demand.

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VI. Agriculture – Farming and Ranching

A. With the boom of homesteaders racing into Montana during the early 1900s, Montana agriculture industry was born.

B. Wheat was and still is Montana's #1 crop, with both winter and spring wheat harvests.

C. Montana provides adequate land and temperatures for numerous crops – her top crops are wheat, (winter and spring), durum, alfalfa, barley, and oats. Johnny Grant first introduced cattle to Montana in the 1850s.

D. Although Montana ranches raise pigs, sheep, llamas, and horses, cattle is by far Montana's #1 livestock.

E. Agriculture is still Montana's #1 industry.

MONTANA HISTORICAL SOCIETY

Stacker just starting up, Adel Ranch, Montana, 1939.

VII. Railroad in Montana

A. The railroad was introduced to Montana in the 1880s.

B. James J. Hill made railroad history in 1887 when his crew of 9,000 men finished the 550-mile line of the St. Paul, Minneapolis, & Manitoba Railroad from Minot, North Dakota, to Great Falls in less than eight months.

C. Hill was crowned the "Empire Builder" in 1894 after gaining control of the Northern Pacific in addition to his Great Northern railways.

D. In 1901 Hill and others purchased the Burlington railroad.

E. There are seven railway systems operating in Montana today: The Burlington Northern Santa Fe Railway Company; Central Montana Rail; Dakota, Missouri Valley and Western (DMVW); Montana Rail Link; Montana Western; RARUS (RARW); and the Union Pacific

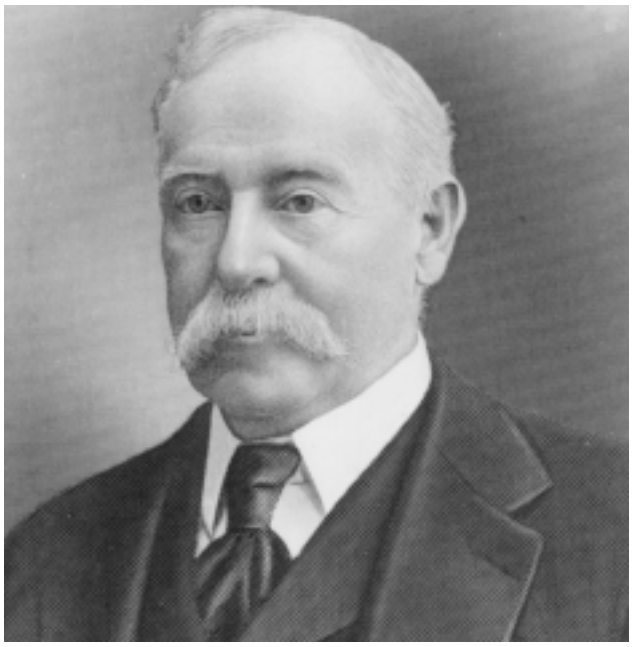
Amazing Montanans—Biographies

Marcus Daly – Immigrant and Copper King

Have you ever heard of the famous Butte "Copper Kings"? Well, let me tell you about them because I'm one myself.

I was born in 1841 and immigrated to the United States from Ireland in 1856. Before settling in Montana, I worked in New York and then tried my hand at managing mines in California and Nevada. That's actually how I came to Montana – one of the mining companies I was working with in Nevada sent me out to investigate the potential of purchasing Butte's Alice Mine. I came out to Butte, thought the mine would be a good purchase, and decided to manage it. But I was so impressed with the possibility of that mine, that I invested $5,000 of my own money in the silver mine! I decided early on that you have to take some risks to get rich in this world and boy did that ring true. Alice Mine is where I got my business sense for the mining industry, and you know what? I discovered that I was not only really good with the money end of things, but also with the people working the mines. All throughout my career people said that they could talk to me and that I was not like other mine owners.

I soon discovered that silver wasn't the wave of the future, copper was. Copper was necessary for the railroad and the electrical industry. I had an idea that the demand for copper would increase and boy was I right! Although there were large copper deposits in Michigan, the state could not meet all of the demand. In 1882 I discovered one of the richest copper deposits in the nation. Located in Butte, Montana, that little copper mine produced so much copper it made me a millionaire.



MONTANA HISTORICAL SOCIETY

Marcus Daly, Butte Copper King.

Because the copper mine was doing so well, I decided to build a copper smelter. And it wasn't any old smelter, but the world's largest copper smelter just 26 miles west of Butte in the Dear Lodge Valley. The Anaconda Copper Company smelter stack, completed on May 5, 1919, is one of the tallest freestanding brick structures in the world at 585 feet. The inside diameter at the bottom is 75 feet and 60 feet at the top. In addition to putting Anaconda on the Montana map, I also created the town of Hamilton, in the Bitterroot Valley, as a booming lumber center. By building my mining and lumber empire I earned the title of "Copper King."

I helped shape Montana into a state and was instrumental in luring immigrants here. In 1900, at the age of 58 I was one of the richest men in the world. Not too bad for an immigrant!

Amazing Montanans—Biographies

Mrs. Nat Collins: The Cattle Queen of Montana

Once upon a time I used to live in Illinois. Boy, does that ever seem like a long time ago – well it was a long time ago because I was just a little girl and now I'm 77 years old. My birth name was Elizabeth Smith, but people refer to me by my married name, Mrs. Nat Collins. You can call me what everyone else from east to west in this great country does – the "Cattle Queen of Montana." Now I know you're scratching your head wondering why this nice, ole' woman is called that, so I'll tell you.

It all began when I was only 15 and we moved from Illinois. Father heard about the gold rush that was taking the west by storm, so he packed up his family and headed out West in 1859. I crossed the Great Plains with my parents to Denver. Was it ever a long trip and desolate – not many settlers, but lots of Indians. We made 12 trips across the Great Plains so that father could try his hand at several different mines in the U.S. as well as in Mexico. During those years I learned a lot about riding horses and shooting a pistol and rifle. You could say I became self-reliant.

In 1862 the whole family settled in Montana. It wasn't until 1874 that I met my future husband, Nat Collins, a silver miner from Helena. We married that year and decided to try ranching, driving 180 head of cattle up to our new home, a 600 acre ranch just 25 miles from Choteau.

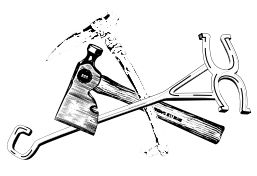
Early in life, my husband suffered from a bad fall off a horse and remained in poor health the rest of his days, so I ran the family ranch. I've been told that I'm good-natured and have a talent for mothering. That must be why all the cowboys and ranchmen called me "Mother" or "Auntie." I do know that I'm a successful cattle woman with great business sense, perseverance, and a strong character.

So that's why in 1890, when I drove my first shipment of cattle 90 miles to Great Falls, I was so upset that the railroad officials wouldn't let me ride on the train with my cattle and other rancher friends. They said it was against the rules to let a woman ride the cattle train – the nerve! It took 10 days of telegraphing back and forth, but I was finally asked to ride on the train when my stockmen friends threatened to boycott the railroad if I couldn't ride. I was victorious! And as I boarded the train, one of those nice young cowboys said, "Three cheers for the Cattle Queen of the Great West" and the name just stuck.

So that's how I got the name and reputation as being the "Cattle Queen of Montana." And if you'd like to learn more about me, you can pick up my autobiography *The Cattle Queen of Montana*.

MONTANA HISTORICAL SOCIETY

Elizabeth Smith (aka Mrs. Nat Collins), Teton County, Montana.



Vocabulary List

Agriculture: The science, art, and business of producing crops and raising livestock.

Anthropologist: A scientist who studies the origin and the physical, social, and cultural development and behavior of humans.

Assay: To analyze a substance such as minerals or metals.

Barter: To trade goods or services without the exchange of money.

Brand: A trademark or "symbol" used to identify property such as livestock. A mark or "symbol" of ownership burned into the hide of an animal with a hot iron.

Branding iron: A metal rod heated and used for branding.

Cache: A hole or hiding place used for storing provisions and other necessities.

Corps: A special branch or department of the armed forces having a specialized function.

Crop: Cultivated plants or produce such as grains, fruits, or vegetables.

Durum: A hardy wheat used chiefly in making pasta.

Flax Seed: The seed of flax and the source of linseed oil.

Forest: A dense growth of trees, together with other plants, covering a large area.

Fur trader: Someone during the 1800s who traded furs as money for items they needed to survive.

Fur trapper: Someone who traps animals for their furs.

Fur: The thick coat covering the body of any of various animals such as fox or beaver.

Gold: A soft, yellowish metal found in the ground through mining, panning, or sluicing.

Goods: Portable personal property.

Hide: The skin of a large animal.

Historian: A student or scholar of history.

Identify: To establish the identity of.

Identity: The quality or condition of being the same as something else.

Journal: A personal record of experiences and thoughts kept on a regular basis; a diary.

Log jam: A mass of floating logs crowded immovably together in a body of water.

Lumbering: To cut down trees and prepare as timber.

continued

Mining: The process of extracting ore or minerals from a mine.

Panning: To wash rocks or gravel in a pan for precious metal such as gold.

Pelt: The skin of an animal with the fur or hair still on it; usually of a small animal.

Pirogue: A flat-bottomed canoe from a hallowed out tree trunk.

Placer mining: Getting minerals or metals such as gold from placers through washing.

Placer: A deposit of sand or soil containing eroded particles of precious minerals.

Prospector: A person who explores an area for natural deposits, such as gold.

Pullman: A railroad sleeping car.

Rail System: The entire system of railroad track, together with the land, stations, and other property used in rail transportation.

Slag: A glassy-like residue created by the smelting of metals.

Sluicing: A long trough, filled with water, used for separating gold ore from rock and soil.

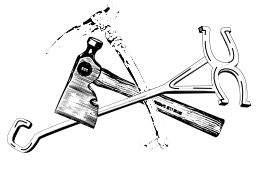
Smelter: A device that melts or fuses, separating metals.

Symbol: Something that represents something else by association, like a material object used to represent something invisible. A printed or written sign used to represent an object or name.

Timber: Wood as a building material; lumber.

Trading post: A station or store in a sparsely settled area established by traders to barter supplies for local products.

Troy: A system of units of weight in which the pound contains 12 ounces.



Lesson 1: Lewis & Clark: The First Tourists

Objectives

At the conclusion of the lesson students will be able to:

- Demonstrate an understanding of how the journals of Lewis & Clark lured people to Montana and the West;
- Keep their own journal;
- Discover how much planning it took for Lewis & Clark to accomplish their trip.

Time

Two 45-50 class periods.

Materials

- Footlocker Materials: none
- User Guide Materials: Journal Making Activity; information on our moon; Lewis and Clark "Discoveries;" map of the Lewis & Clark expedition
- Teacher Provided Materials: paper, construction paper, glue, markers, paper punch, string or yarn

Pre-Lesson Preparation

Get all materials ready for the journal making activity.

President Thomas Jefferson asked two military captains to lead the first ever "tour" of the western part of the United States. Captains Lewis & Clark and the Corps of Discovery began their trip in St. Louis, Missouri, on May 14, 1804 and returned on September 23, 1806. The Corps, including Lewis & Clark, Sacagawea, her husband Charbonneau and son Pomp, Clark's man-servant York, 26 "enlisted" men and a pet New Foundland dog visited many states, but spent a considerable amount of time in Montana.

No one had ever ventured as far as the Corps was going. From St. Louis to the Pacific Ocean – it was an almost unimaginable distance to travel. Several members of the Lewis & Clark Expedition were ordered to keep a journal, as they were heading into uncharted territory and knew the journey would be difficult – if only one of their journals survived, President Jefferson would have been happy. But to his surprise six of the journals made it safely back to Missouri.

Because they were to be gone so long and had so many in their party, the Corps had to take plenty of supplies with them. When the Corps left St. Louis, they had enough supplies that could have completely filled a 24-foot U-Haul truck. They brought food, clothing, ammunition, and medicine. Trade items were included because they knew that they would have to rely on Native Americans for horses and assistance along the way. Additional paper, ink (because there weren't pens back then), sewing supplies, tools, and scientific instruments were also taken. Although some of the supplies were cached for their return trip home, much was taken with them on boats and carried on men's backs.

Today, "largely because of the scenery, recreation is one of the primary uses of Montana's forests. Of the 22.5 million acres of forest land, over 16 million are public, managed by the U.S. Forest Service, National Park Service, Bureau of Land Management, State of Montana,

continued

or counties and municipalities. The state has over 3 million acres of designated wilderness and another 4 million acres that are specially managed for resource protection. Seven percent of Montana's private land -- about 4 million acres -- is officially open (through agreements with the state) to public recreation. The primary uses of forest land in the state are hunting, fishing, hiking, camping, wildlife viewing, skiing, biking, horseback riding, rock climbing, mountaineering, picnicing, boating, swimming, and rock hounding. The people engaged in these activities come from across the nation and beyond. In 1994, about 9 million people visited Montana. The figure is over ten times the number that actually live in the state," Fish Wildlife & Parks website.

Procedure for Class Period 1:

1. Share information on Lewis & Clark and their trip through the West, in particular Montana.
2. Talk about the strange and wonderful animals, plants, and people they encountered, as well as the scenery.
3. Explain that several members of the Corps were expected to keep a diary or journal of their experiences. Explain what a journal is. Share the list of plants, animals, and people recorded by Lewis and Clark.
4. Tell students they are going to plan a trip to the moon. But first they need to make a journal to keep all of their thoughts and discoveries in.
5. Have everyone make a journal using the "Journal Activity" found in the User Guide.

Procedure for Class Period 2:

1. After everyone has created their journal, tell them that they are about to embark on a trip to the moon (because that was just about where Lewis & Clark and the Corps of Discovery thought they were going when they set out for the West!).
2. Pass out the information on our moon and have students read it.
3. In their journal ask students to write down and draw the following concerning their trip to the moon:
    a. What types of plants, animals, and people might they encounter?
    b. What types of supplies should they take with them (clothes, food, tools, fun-time activities)?
    c. How many people they think are necessary to go with them?
    d. How long they think it will take them to get there, how they will travel there and back, and how long they will be gone? What supplies will help? Will they have room?
    e. What will the weather be like during their journey?
    f. How will they communicate with their friends and family back home?

Discussion Questions

1. Ask students to share their ideas with the class. How are these items similar to what the Corps of Discovery encountered? How are they different?

continued

Further Exploration

- Lewis and Clark were Montana's first tourists. How has tourism changed today?
- Get on the "Visit Montana" website at https://www.visitmt.com/ and answer the following questions about tourism in Montana:
    a. Montana depends upon tourism because…
    b. Montana generally sees approximately how many tourists per year?
    c. Tourism is important for Montana because…
    d. Ask students to come up with other questions generated from the website.
- Visit your local Chamber of Commerce and/or website. Is tourism important to your hometown? Why? How?
- Have someone from the tourism industry visit your classroom to discuss how important tourism is to Montana.

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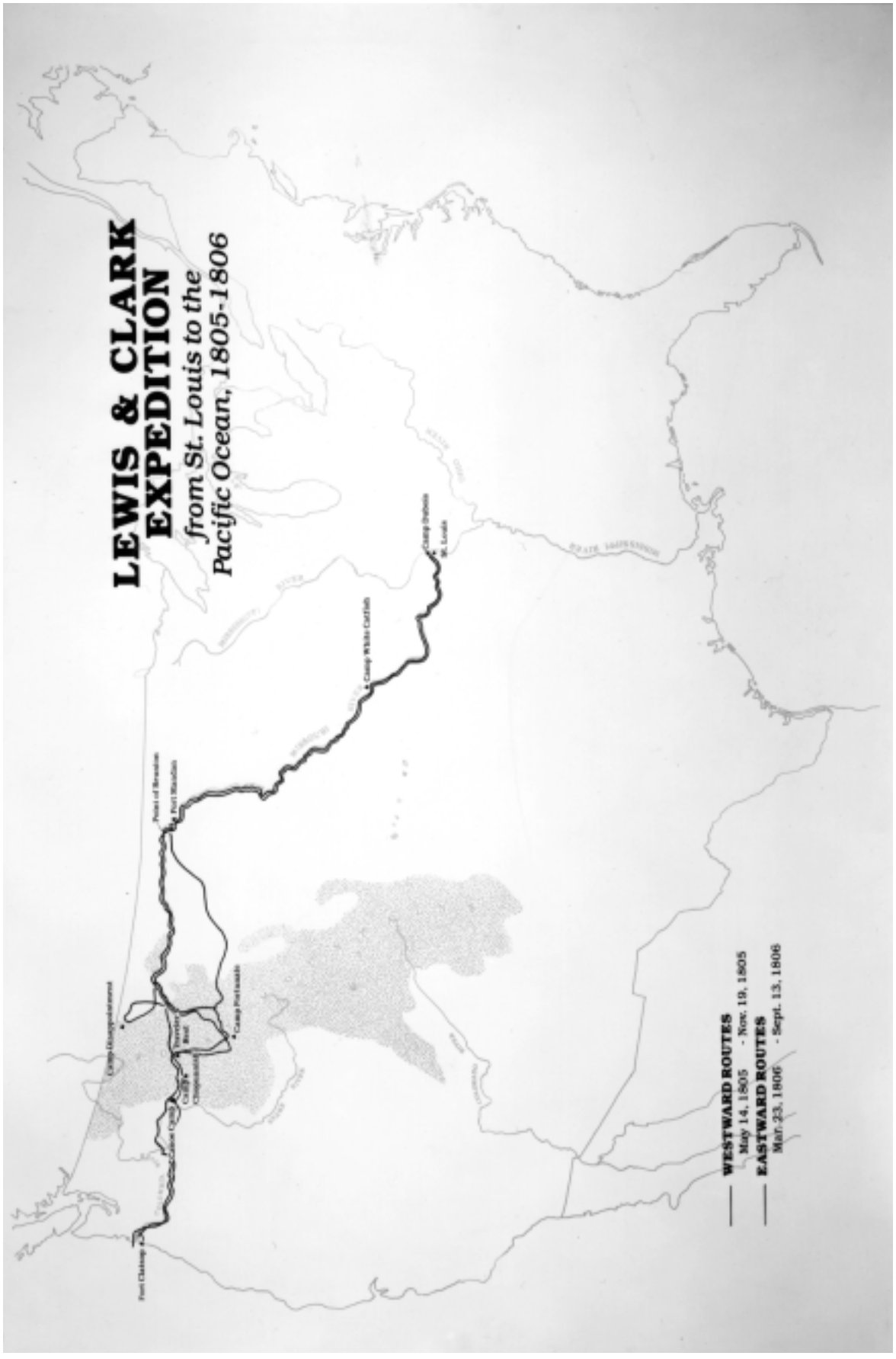


MONTANA HISTORICAL SOCIETY

Lesson 1: Lewis & Clark: The First Tourists

Journal Making Activity

Materials:

8 sheets of 8.5 x 11 inch white paper per student, construction paper, glue, markers, paper punch, string or yarn, hand-made journals (to use as guides)

Procedure:

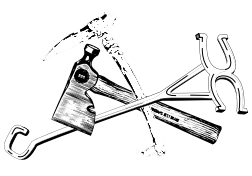
1. Ask students to select a piece of construction paper for the cover of their journal. Give them many different colors to choose from. Have them fold the piece of paper in half, lengthwise.
2. Have students decorate their cover with scraps of construction paper and glue, markers, crayons, etc. Remind them of the reason for creating this journal – to record their imaginary trip to the moon. You might bring in pictures of the moon, space, and planets for students to view while decorating their journal cover, or to cut out and glue on.
3. Pass out 8 sheets of 8.5 x 11 inch white paper per student.
4. Tell students they will be making two "signatures" for their journal. Ask them to fold the sheets (two sets of four papers) in half lengthwise so they will fit inside their construction paper cover. Have them put the two signatures inside the cover.
5. Next, tell students they will be making their binding. Have everyone punch three holes in the fold of their journal. After doing this, tell students to secure their binding with yarn.

MONTANA HISTORICAL SOCIETY

York, by C.M. Russell

6. Their journal is complete and ready to be filled!

*__Note:__ For young students, pass out already constructed journals, ready for the cover to be decorated and journaling to begin.



Lewis and Clark "Discoveries"

Lewis & Clark and the Corps of Discovery wrote in their journals about encountering many different Indian tribes during their epic adventure:

Arikara	Clatsop	Kickapoo	Nez Perce	Shoshone	Walla Walla
Blackfeet	Crow	Mandan	Omaha	Sioux	Yakima
Chinook	Hidatsa	Missouri	Oto	Teton Sioux	

How many of these Indian tribes once lived in Montana?_____

_____

How many of these Indian tribes still have reservations in Montana?_____

_____

How do you think that Lewis & Clark could tell the differences between Indian tribes?_____

_____

Lewis & Clark recorded 178 different plants and 122 animals in their journals during their epic adventure. Many of these they had never seen before. These are just a few of them:

Plants and Trees:	Berries	Cottonwood trees	Prickly pear	Sweetgrass
Acorns	Bitterroot	Grapes	Sage brush	Wild licorice
Aspen trees	Camas bulbs	Mountain hemlock	Spruce trees	Wild onions
Beans (that Indians grew)	Cedar bark	Pine trees	Squash (that Indians grew)	Wildflowers
Beargrass	Chokecherries	Prairie turnip	Sunflowers (that Indians grew)	Willow trees
	Corn (that Indians grew)			

Are there any plants and trees on the list that you have never seen? If yes, which ones?

_____

_____

Look one of these plants or trees up in an encyclopedia and look at the picture (don't read the description). Describe what you see in your journal._____

_____

Share your description with another student and ask him/her to draw what you describe. How does the picture look? Were you accurate in your description?_____

_____

_____

continued

Animals, Birds and Fish:

Bald eagles	Coyotes	Lewis' woodpecker	Porcupine	Trout
Beaver	Curlew	Magpies	Prairie dogs	Various ducks
Bighorn sheep	Elk	Mice	Pronghorn antelope	Weasels/ermine
Black bears	Fox	Mountain lions	Raccoons	Western meadowlark
Brown bears	Frogs	Mule deer	Rattlesnakes	Western Tanagers
Buffalo	Grizzly bears	Opossum	Red squirrels	Whales
Canada geese	Hummingbirds	Otters	Salmon	Whooping cranes
Clark's nutcracker	Jackrabbits	Owls	Sharp-tail grouse	Wild horses
Cottontail rabbits	Killdeer	Plovers	Skunks	Wolves

Are there any animals, birds, or fish on the list that you have never seen? If yes, which ones?

_____

_____

_____

_____

Look one of these animals, birds, or fish up in an encyclopedia and look at the picture (don't read the description). Describe what you see in your journal.

_____

_____

_____

_____

Share your description with another student and ask him/her to draw what you describe. How does the picture look? Were you accurate in your description?

_____

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_____

Moon

National Aeronautics and Space Administration

The regular daily and monthly rhythms of Earth's only natural satellite, the **MOON**, have guided timekeepers since ancient times. Its influence on Earth's cycles, notably tides, has also been charted by many cultures in many ages. More than 70 spacecraft have been sent to the Moon; 12 astronauts have walked upon its surface and brought back 382 kg of lunar rock and soil to Earth.

The presence of the Moon stabilizes Earth's wobble. This has led to a much more stable climate over billions of years, which may have affected the course of the development and growth of life on Earth.

How did the Moon come to be? The leading theory is that a Mars-sized body once hit Earth and the resulting debris (from both Earth and the impacting body) accumulated to form the Moon. Scientists believe that the Moon was formed approximately 4.5 billion years ago (the age of the oldest collected lunar rocks). When the Moon formed, its outer layers melted under very high temperatures, forming the lunar crust, probably from a global "magma ocean."

From Earth, we see the same face of the Moon all the time because the Moon rotates just once on its own axis in very nearly the same time that it travels once around Earth. This is known as "synchronous rotation." Patterns of dark and light features on the nearside have given rise to the fanciful "Man in the Moon" description. The light areas are lunar highlands. The dark features, called *maria*, are impact basins that were filled with dark lava between 4 and 2.5 billion years ago.

After this time of volcanism, the Moon cooled down, and has since been nearly unchanged, except for a steady rain of "hits" by meteorites and comets. The Moon's surface is charcoal gray and sandy with much fine soil. This powdery blanket is called the lunar regolith, a term for mechanically produced debris layers on planetary surfaces. The regolith is thin, ranging from about 2 meters on the youngest maria to perhaps 20 meters on the oldest surfaces in the highlands.

Unlike Earth, the Moon does not have moving crustal plates or active volcanoes. However, seismometers planted by the Apollo astronauts in the 1970s have recorded small quakes at depths of several hundred kilometers. The quakes are probably triggered by tides resulting from Earth's gravitational pull. Small eruptions of gas from some craters, such as Aristarchus, have also been reported. Local magnetic areas have been detected around craters, but the Moon does not have a magnetic field resembling Earth's.

A surprising discovery from the tracking of the *Lunar Orbiter* spacecraft in the 1960s revealed strong areas of high gravitational acceleration located over the circular maria. These mass concentrations (mascons) may be caused by layers of denser, basaltic lavas that fill the mare basins.

In 1998, the *Lunar Prospector* spacecraft team reported finding water ice at both poles. Comet impacts deposited water on the Moon. Some of it migrated to very dark, very cold areas at the poles.

Much remains to be learned about our Moon. Researchers continue to study the samples and data returned by Apollo and other missions, as well as lunar meteorites.

Fast Facts

Mean Distance from Earth	384,400 km
Orbital Period	27.32 days
Orbital Eccentricity	0.05
Orbital Inclination to Ecliptic	18.3°–28.6°
Inclination of Equator to Orbit	6.67°
Rotational Period	27 d 7 h 41 m (synchronous)
Diameter	3,475 km
Mass	0.0123 of Earth's
Density	3.34 g/cm^3
Gravity	0.17 of Earth's
Surface Rocks	basaltic and anorthositic
Atmosphere	None
Mean Temperature at Surface	107 °C (day), -153 °C (night)

Significant Dates

1610	Italian astronomer Galileo Galilei made the first telescopic observations of the Moon.
1959–60	*Luna 1–3* (U.S.S.R) were the first to fly by, impact, and photograph the far side of the Moon.
1964	*Ranger 7* data indicated that the lunar surface would be suitable for a piloted landing.
1966	Soviet *Luna 9* made the first soft landing on the Moon.
1966–67	*Lunar Orbiters* photographically mapped the Moon.
1968	*Apollo 8*, first piloted flight to the Moon, circled 10 times before returning to Earth.
1969	*Apollo 11*, first human landing on the Moon, returned rock and soil samples.
1970	*Luna 16* was the first of 3 Soviet missions to use a robotic rover to return lunar soil samples.
1972	*Apollo 17* was the last of 6 *Apollo* missions to land astronauts and return samples from the Moon.
1994	*Clementine* conducted multispectral mapping and measured altitudes on the Moon.
1998	*Lunar Prospector* made a geochemical map of the Moon and discovered ice at both poles.

About the Images

(Left) The familiar face of the Moon, taken by *Apollo 11* astronauts on their way home, shows the dark maria and lighter highlands.
(Right, top center) *Apollo 11* astronaut Edwin Aldrin stands facing the U.S. flag on the Moon.
(Right, top right) In 1969, *Apollo 12* astronaut Pete Conrad says hello to *Surveyor 3*, which landed in 1967.
(Right, center) *Apollo 17* scientist-astronaut Harrison Schmitt stands next to a huge, split boulder at the Taurus-Littrow landing site on the last human mission to the moon in 1972.
(Right, bottom) Close-up view of *Apollo 15* lunar sample number 15415 in the Non-sterile Nitrogen Processing Line in the Lunar Receiving Laboratory at the Manned Spacecraft Center. This sample is the white anorthositic rock (nicknamed the Genesis Rock) that is 4.5 billion years old—as old as Earth.

References
1) Exploring the Moon Teacher's Guide, NASA, 1997: *http://spacelink.nasa.gov/products/Exploring.the.Moon*
2) Apollo press release images: *http://images.jsc.nasa.gov*
3) *Lunar Prospector* mission: *http://lunar.arc.nasa.gov*
4) *Clementine* mission: *http://www.nrl.navy.mil/clementine*

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Lesson 2: Fur Trappers of the West

Objectives

At the conclusion of the lesson students will be able to:

- Discuss why there were so many fur trappers in the West in the 1800s;
- Discuss why trapping and trading was so important in the West;
- Discuss why white trappers traded with Native Americans.

Time

One 45-50 minute class period.

Materials

- Footlocker Materials: beaver pelt and trap; trade bead card; blanket; musket balls; cooking pot; EA Stephens & Co. Trappers Supply Catalog excerpts; photographs of fur trappers and Native Americans
- User Guide Materials: map of "Fur Trade in the 19th century"
- Teacher Provided Materials: paper and pencils for each student

Pre-Lesson Preparation

1. Hang up a copy of the "Fur Trade in the 19th century" map.
2. Get out all of the fur-related and trade items from the trunk and place them on a table.
3. Get out the photographs of fur trappers and Native Americans.
4. Have paper and pencils available for each student.

Traders from St. Louis established the first trading posts in Montana in 1807 (Bighorn River) and in Three Forks by 1810. By 1829, the American Fur Company had built Fort Union at the mouth of the Yellowstone River. This large fort dominated fur trading activities in the region for decades. Furs were one type of good that was exchanged at trading posts. People bartered for items instead of using money.

About 2,000 trappers were in the Montana region during the 19th century. Why did they come? By the time the Lewis & Clark Expedition returned to St. Louis, white trappers were creeping into Montana in search of the many fur bearing animals the Corps of Discovery wrote about in their journals. The news got out and trappers began to flood Montana in search of the rich furs.

MONTANA HISTORICAL SOCIETY

White traders and Native Americans, Fort Belknap Agency, Montana, 1885-6.

(continued)

Furs and manufactured items were traded instead of bought with currency during the late 1700s and early 1800s. White trappers relied much on local Native American tribes, trading manufactured items for various types of furs. In exchange, Native Americans traded furs for European and U.S. goods such as guns, ammunition, axe heads, kettles, fire kits, needles, beads, cloth, and blankets. Many white trappers brought these items with them from the east before heading to Montana or procured them at trading posts. Some trading with Native Americans was done at trading posts, some done between individuals outside the posts. The items Native Americans traded for were used in every day life as well as for special ceremonies. This trading had a tremendous effect on Native Americans. Many became ill from contact with white men and diseases they had never been exposed to.

Procedure:

1. Pass around the beaver pelt and trap. Discuss how pelts were obtained. In particular, discuss beaver trapping using the E.A. Stephens & Co. Trappers Supply Catalog.
2. Discuss how pelts and hides were used as currency in the 1800s.
3. Talk with students about fur trappers of the 1800s, their relationship with Native Americans, and how people of the 1800s "purchased" necessary items.
4. Show students the different objects in the trunk that fur trappers and Native Americans traded with one another. Talk about the importance of each item. Discuss which items white traders procured to trade and which items Native Americans did. Both Native Americans and white trappers obtained pelts from smaller animals such as raccoon, beaver, ermine, badger. Many Native Americans, and some white trappers, also hunted bison, elk, deer, and other large game for their hides. White trappers had access to European and U.S. goods such as guns and ammunition, beads, cooking pots, etc.
5. Pass around photographs of the trading posts. Ask students what they notice in the photographs. Who is in them? What items are in them? Ask students to complete the "How to Look at a Photograph" worksheet.
6. Next, have students view, touch, and talk about all of the trade items located in the trunk. Ask students to fill out the "How to Look at an Artifact" worksheet.

Discussion Questions

1. How did Native Americans obtain pelts and hides to trade with the white trappers?
2. How did the white trappers obtain pelts and hides to trade with Native Amerians?

MONTANA HISTORICAL SOCIETY

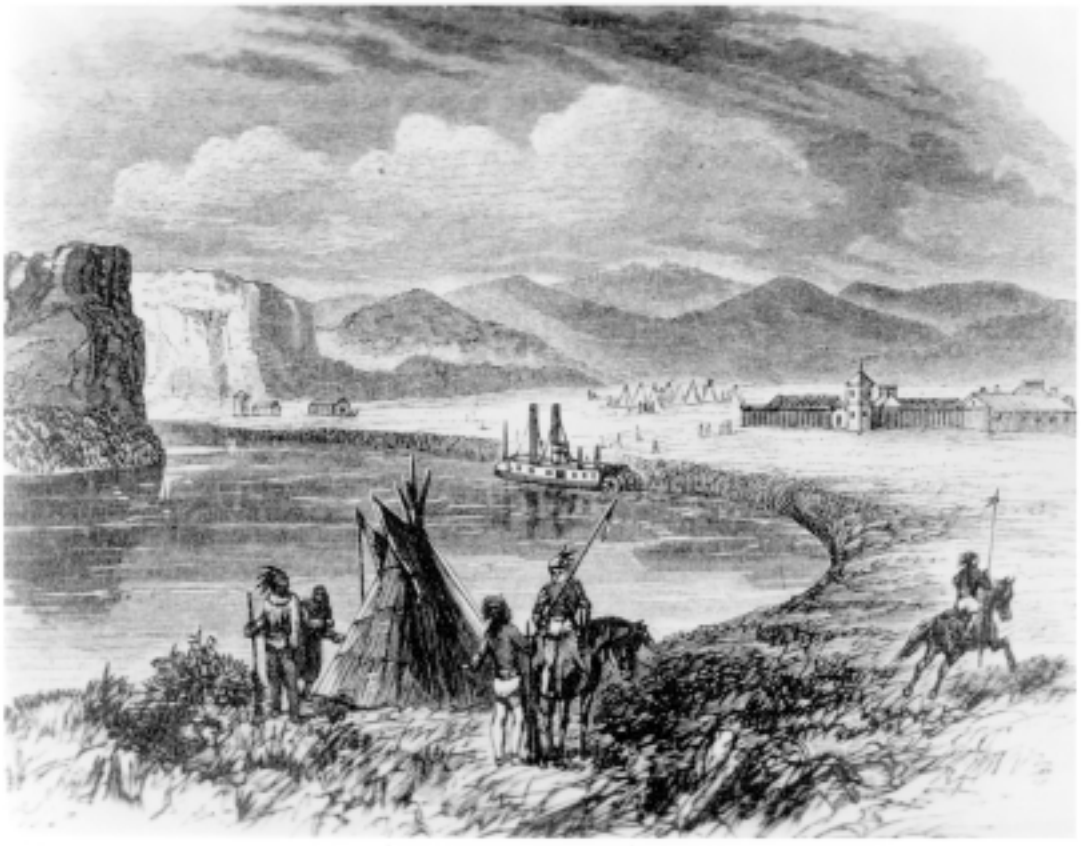
A trapper's camp.

(continued)

3. Where do you think that white trappers got European and U.S. goods to trade with Native Americans?
4. What other items do you think were traded during the 19th century? Why?

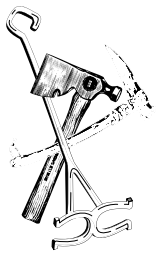
Further Exploration

- Have a "Barter Bake Sale" in your classroom. At the beginning of the week tell students will be earning "beaver pelts" throughout the week for the grades they get in class, art activities they participate in, etc. – use a wide variety of criteria for multiple learners. An A might equal four pelts, B three, C two, and so on. Ask them to keep their pelts in class because they'll be able to barter for yummy baked goods at the end of the week. Bring in several different types of baked goods (ask parents to help if you'd like) and have your own Trading Post. Dressing the part will enhance the play acting, so don't forget to don one of the hats in the trunk and build your own costume around it.
- Have students read "Traps to Use for Beaver" and "How to Prepare Beaver Skins for Market" from the E.A. Stephens & Co. Trappers Supply Catalog (pages 25 and 5-9). Have them write a report on how beavers were trapped and marketed in the 1920s.
    a) Or have them write a story about trapping beaver from the perspective of a 19th century trapper.

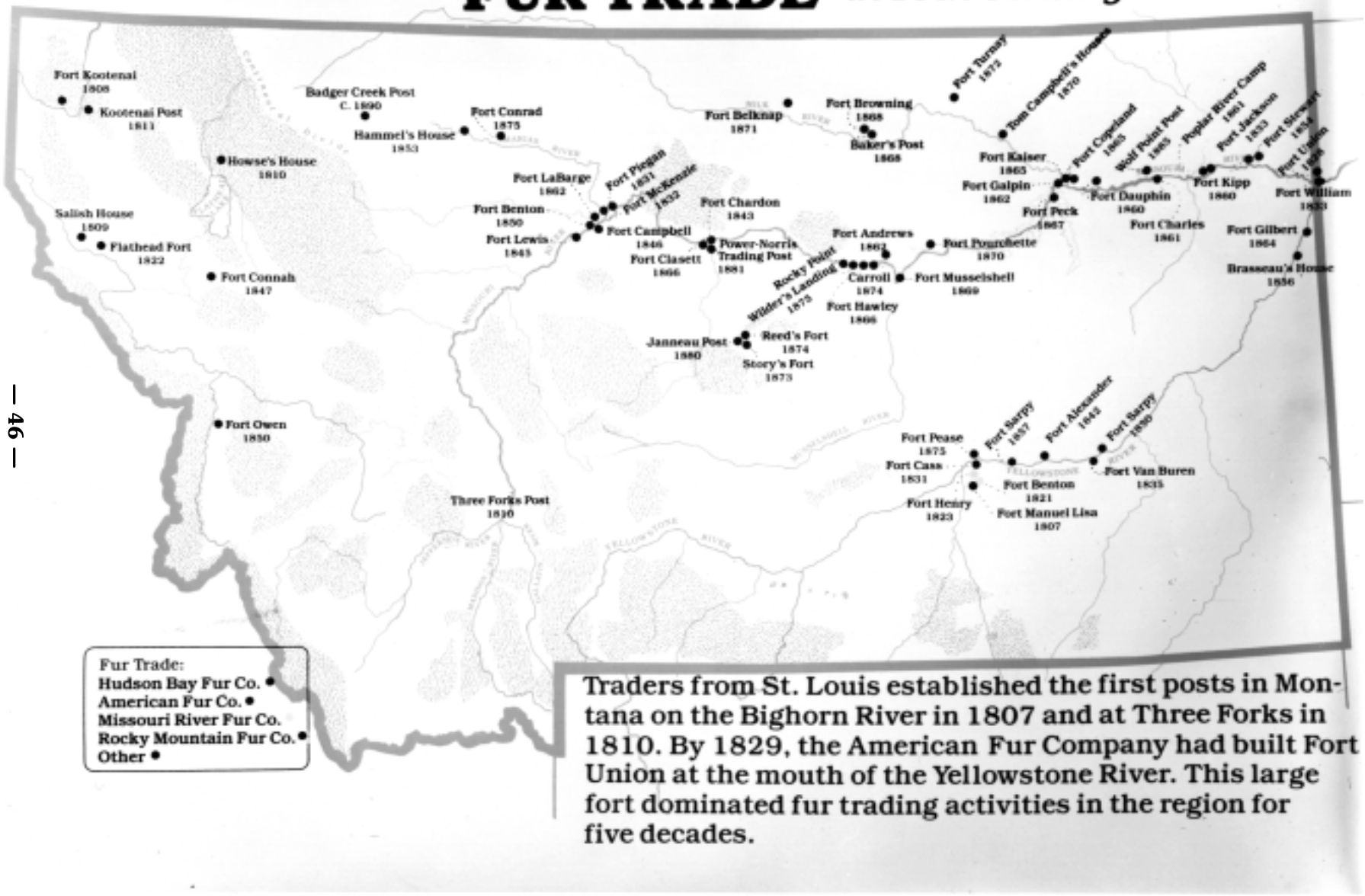


MONTANA HISTORICAL SOCIETY

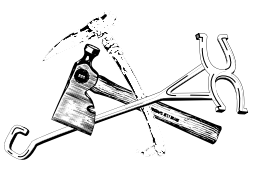
View of Fort Benton, from Harper's Monthly, October 1867.



FUR TRADE *in 19th Century Montana*



Traders from St. Louis established the first posts in Montana on the Bighorn River in 1807 and at Three Forks in 1810. By 1829, the American Fur Company had built Fort Union at the mouth of the Yellowstone River. This large fort dominated fur trading activities in the region for five decades.



Trappers Guide & Game Laws

Briefly review E.A. Stephens & Company's Trappers Supply Catalog and answer the following questions:

1. Where was this catalog created? _____

_____

2. When was the catalog created? _____

_____

3. How much would it have cost to purchase the following Newhouse traps:

#	Size No.	Type of Trap	Price
2 each	**81**	**for mink, muskrat, skunk**	**$**
1 each	**5**	**for large bear**	**$**
3 each	**2 1/2**	**for otter**	**$**
2 each	**91**	**for coon, skunk, fisher, fox**	**$**
		Total:	**$**

4. In Montana, during what time of year could beaver be trapped in 1922? _____

_____

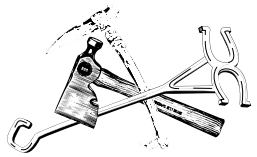
_____

5. In Montana, what types of fur bearing animals could be trapped in State Game Preserves in 1922? _____

_____

6. Why do you think that Montana had laws (in 1922) on how many fur bearing animals a person could trap in one year? _____

_____



Lesson 3: Mining for Gold in Them There Hills!

Objectives

At the conclusion of the lesson students will be able to:

- Grasp the importance of the Gold Rush in Montana;
- Demonstrate how gold was weighed to determine its worth.

Time

One 45-50 minute class period.

Materials

- Footlocker Materials: 2 scales, fool's gold (pyrite) in various shapes and sizes, mining photographs
- User Guide Materials: "Early Gold Strikes" map, "Price of Gold" sheet
- Teacher Provided Materials: paper and pencils

Pre-Lesson Preparation

1. Get all pertinent items out of the footlocker.
2. Make copies of the "Price of Gold" sheet for all students.
3. Have additional paper and pencils available for the activity.

Numerous types of mines and various techniques for mining have been utilized to extract precious materials from Montana. The state is home to over 40 minerals, metallic ores, and energy resources such as agate, sapphires, petroleum, and copper. Western, central, and eastern Montana all differ in the minerals they contain. The differences are related to the geology and structure of rock formations found in each region. Petroleum and natural gas is primarily found in central Montana. In addition, some metallic ore deposits and clay have also been found in this part of the state. The majority of coal (90%) is found in eastern Montana. Montana is home to the largest reserve of coal in the United States, estimated at 120 billion tons. Western Montana contains a wide array of metallic ores and minerals, and the state's largest gold deposits.

It was the gold rushes of the mid- to late-1860s that brought so many people to Montana. The first big gold rush in Montana was on Gold Creek in 1862. Over two years time, thousands of miners flocked to Montana in search of their fortune. "Many came to apply themselves to the hard work of placer mining, but some came to get their gold the easy way – through robbery and trickery. Incidents ranged from minor thefts to brutal murders, resulting in the organization of the 'Vigilantes.' Trading and mercantile centers sprang up to serve the gold camps. Extensive and varied agricultural ventures developed in the southwestern mountain valleys to meet the needs of the placer mining boom. [But] of the more than five hundred mining camps that dotted the western mountains, only a few, such as Butte and Helena, survived to become modern towns," *Montana Almanac*.

The price of gold is determined by the currency in which it is quoted. The decline in the U.S. dollar-gold price is due to the strength of the U.S. dollar. For example, the average gold price was in an upswing and rose by more than 30% during the end of the 20th century. The U.S. dollar-gold price could

(continued)

increase to over $500 an ounce if the U.S. dollar declined to its average exchange rate of the early 1990s.

Gold is weighed in troy ounces or grams.

32 grams = approximately 1 ounce

1 troy ounce = 1.097 ordinary ounce

The purity of gold can be measured three different ways.

Percent (parts of gold per 100): 100%, 91.7%, 75%, 58.3%, and 41.6%

Fineness (parts of gold per 1000): 999 fine, 917 fine, 750 fine, 583 fine, 416 fine

Karats (part of gold per 24): 24 karat, 22 karat, 18 karat, 14 karat, 10 karat

Procedure

1. Share with students information on the Montana gold rush and how important it was to the state.
2. Show students the pyrite, pass it around the room, and explain what it is. Discuss that it looks similar to real gold.
3. Next, discuss how gold was found in Montana during the 19th century. Show pictures of placer and hydraulic mining.
4. Show students the scale and describe how it works. Explain the word assay.
5. Break the students into two groups. Give each group a scale and pyrite. Have them jot down the weights for each of four pieces of gold.
6. Using the "Price of Gold" sheet and grid, assign one year (1850, 1900, 1950, 2002) to each group. Have them calculate how much their gold was/is worth. Ask a representative from each group to share how much the gold would be during their time frame.

Discussion Questions

1. Why is there such a difference in the price of gold from the 1800s to today?
2. What other material(s) can students think of that has increased in price from the 1800s to today? Why?

Further Exploration

- Ask students what they can list that is made of gold today. (jewelry, coins, gold fillings and crowns, is used in some drugs—one in particular to treat arthritis, as a coating for visors for firefighters and astronauts, gold leaf used in many arts and crafts and on picture frames, etc.)
- What items from the past used to be made of gold and aren't made of gold today? Why? (many coins, most jewelry, fillings – many now are silver instead)
- What other types of precious materials have been mined in Montana? (gemstones such as garnets, and sapphires silver, and copper).
- What other types of materials have been mined in Montana? (coal, lead, zinc, iron ore, etc.)

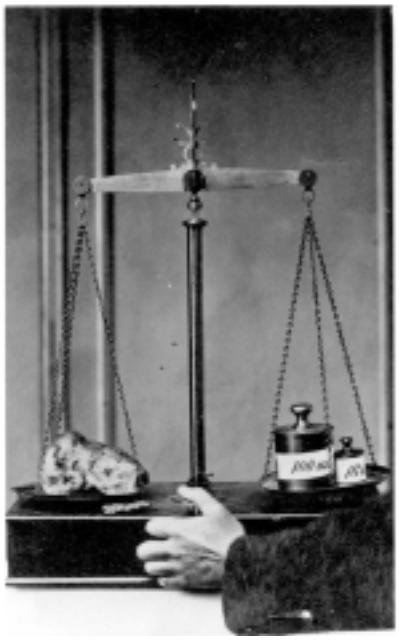
Price of Gold

Gold is weighed in troy ounces or grams.

32 grams = approximately 1 ounce

1 troy ounce = 1.097 ordinary ounce

1850:	$20.67/ounce
1900:	$20.67/ounce
1950:	$40.25/ounce
2000:	$279.11/ounce



MONTANA HISTORICAL SOCIETY

Weighing gold; Nelson Gulch Nugget taken out of Nelson Gulch in 1865.

Ordinary ounces:

Weight of gold nugget #1: _____ Cost of gold nugget #1 in year 1850 _____

Weight of gold nugget #2: _____ Cost of gold nugget #2 in year 1900 _____

Weight of gold nugget #3: _____ Cost of gold nugget #3 in year 1950 _____

Weight of gold nugget #4: _____ Cost of gold nugget #4 in year 2000 _____

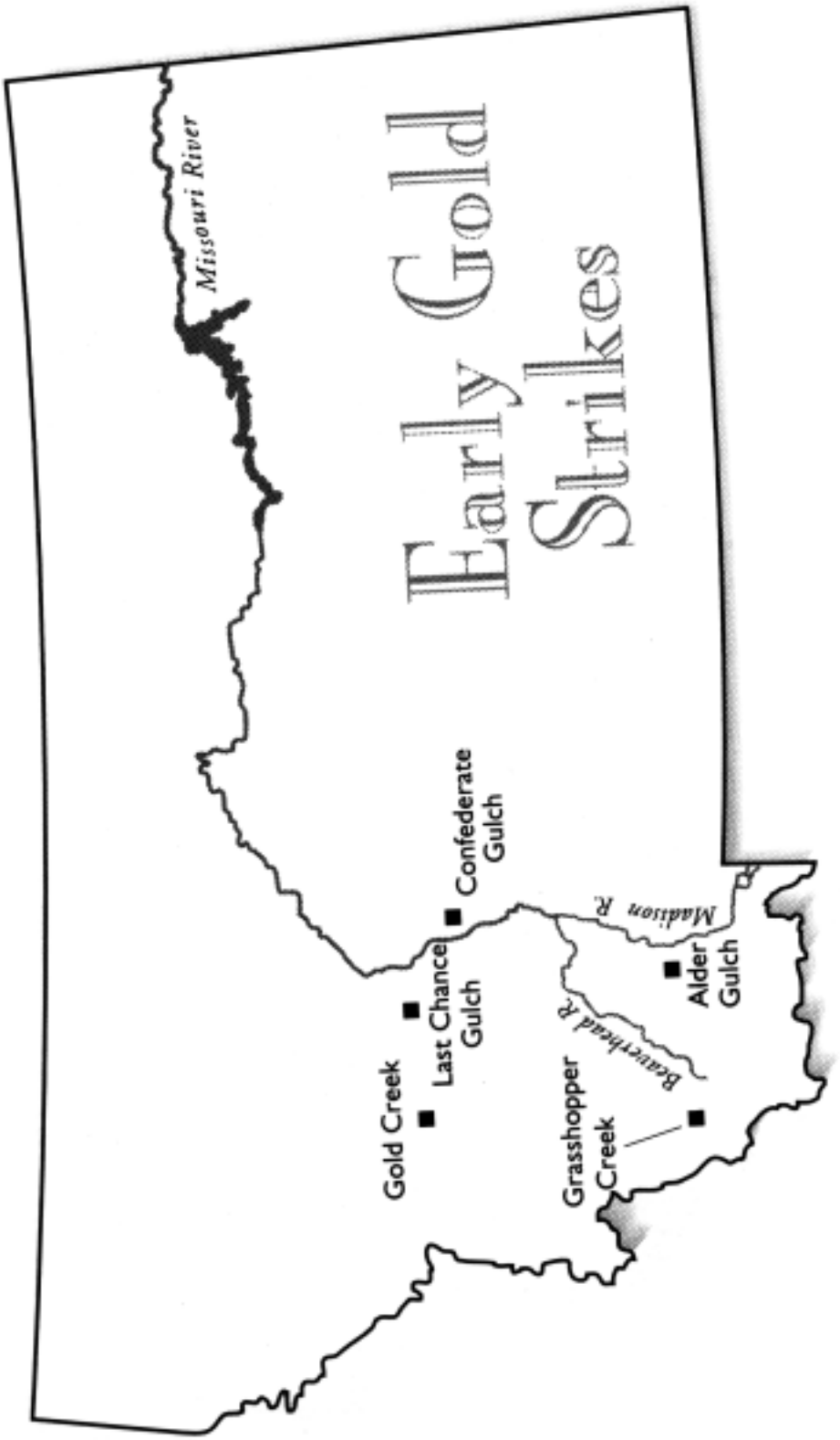
Troy ounces:

Weight of gold nugget #1: _____ Cost of gold nugget #1 in year 1850 _____

Weight of gold nugget #2: _____ Cost of gold nugget #2 in year 1900 _____

Weight of gold nugget #3: _____ Cost of gold nugget #3 in year 1950 _____

Weight of gold nugget #4: _____ Cost of gold nugget #4 in year 2000 _____


Early Gold Strikes
Missouri River
Confederate Gulch
Madison R.
Alder Gulch
Beaverhead R.
Last Chance Gulch
Gold Creek
Grasshopper Creek

Lesson #4: Timber!
The Montana Lumber Industry

Objectives

At the conclusion of the lesson students will be able to:

- Demonstrate an understanding of the lumbering industry in Montana and how it has affected the landscape.

Time

One 45-50 minute class period.

Materials

- Footlocker Materials: Timber Industry photographs
- User Guide Materials: "How to Look at a Photograph" worksheet
- Teacher Provided Materials: paper and pencils

Pre-Lesson Preparation

Lumbering was a very important industry for Montana. Towns like Helena, Missoula, and Hamilton were large lumbering towns and sites where many trees were harvested.

The first sawmill in Montana was near St. Mary's Mission in the Bitterroot Valley. Father Ravalli built it in 1845. During the Gold Rush of Montana, mills produced 13 million board feet of lumber to support the miners, as they needed homes, sluice boxes, and stores. However, as the numerous placer gold mines began to close during the 1870s and '80s, the lumber mills were abandoned.

Two new industries revived the timber industry in the late 1880s. Hard rock copper mining required as much wood

MONTANA HISTORICAL SOCIETY

Saw logs at Bonne Mills, Forsyth, Montana, circa 1908.

(continued)

for mining for the smelters. And the introduction of the railway system in Montana put a huge demand on wood for rail ties, fuel, tunnels, and construction.

Today, twenty-two million acres in Montana are forested (that's about 24% of Montana's land mass) and 3.4 million is forested land reserved in wilderness areas, national parks, and national monuments. The USDA Forest Service currently manages nine different forests in Montana to ensure we do not deplete the landscape, as was beginning to happen in the late 1800s and the beginning of the 20th century. Our forests are managed so that future generations can enjoy the diverse beauty of Montana for years to come.

Procedure:

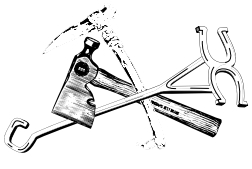
1. Talk to students about the history of the timber industry in Montana.
2. Show and pass around photographs of various logjams along Montana rivers, and clear cuts across the landscape.
3. Ask students to fill out the "How to Look at a Photograph" worksheet for one of the photos.
4. Have students break into groups according to which photo they chose. Have them discuss what they saw. Ask a representative from each group to share their photo with the rest of the class.

MONTANA HISTORICAL SOCIETY

The Great Log Jam of the Blackfoot, Forsyth, Montana, circa 1908

Further Exploration

- Is there a lumber mill near your town? Take a tour of the mill to better understand where all of Montana's trees are going.
- Is there a Home Depot or lumber company in your town? Take a field trip to discover the different types of wood being sold. How many different types of wood are from Montana?
- Get on the USDA Forest Service's website. What forest is closest to your town? Take a trip there or go on a virtual trip via the Internet. What types of trees live there? What wildlife and other plants are there?



Lesson #5: Great Crops that Made the West

Objectives

At the conclusion of the lesson students will be able to:

- Demonstrate an understanding of how diverse Montana agriculture is;
- Show on a map where major Montana crops are grown.

Time

One 45-50 minute class period.

Materials

- Footlocker Materials: Montana crop sample pictures
- User Guide Materials: Crops Map of Montana overheads, Montana Map
- Teacher Provided Materials: various colored markers, pencils

Pre-Lesson Preparation

Make copies of the Montana map for each student. Have colored markers and pencils available.

"Agriculture has been Montana's #1 industry for almost a century, and farming and ranching have both played a big role in the economy and culture of Montana – both the state and the territory. The promise of practicing agriculture has lured a great number of people to Montana over the years, especially during the homestead boom of the early part of this century. The farmers and ranchers of today practice sound land and water stewardship and tap into the global marketplace in order to remain competitive," *Montana Almanac*.

Montana's total land area is 147,046 square miles. However, over half of this area is above 5,000 feet in altitude, restricting its growing season. This area is extremely valuable for timber harvesting and grazing. We are very lucky in Montana – our soil is rich in nutrients and where temperature allows, crops tend to grow well. Because of the severe climate, Montana's hardiest crops have always been her best. In the southern counties, where the growing season is longer but rainfall even scantier, more land has been reserved for grazing. On the milder and moister western slopes, much fruit has been grown. The rich dark loam of the Gallatin and other sheltered valleys east of the divide produced the state's finest and most varied crops of grain, fruit, and vegetables.

"Montana's major crop has been and continues to be wheat. In 1995 wheat accounted for almost 68% of cash receipts from crops. The 1995 wheat crop was the most valuable ever, reaching a record $897.4 million. Almost 86% of Montana's agricultural exports in 1995 were wheat and wheat products," *Montana Almanac*.

Montana grows many other crops as well. Her top crops are wheat (winter and spring), alfalfa, barley, oats, flax seed, dry beans, potatoes, sugar beets, and corn. The crops grown in Montana are as diverse as her land is!

(continued)

Procedure:

1. Have students examine the different photos of Montana crops. Discuss each type of crop and how important it is for Montana and the rest of the United States.
2. Pass out a copy of the Montana map for each student. Have students find their hometown on the map and mark it with a yellow star.
3. Next, ask students where they think wheat is grown in the state. After some discussion, show them the Winter Wheat Map of Montana overhead. Have students mark the wheat areas on their map with a green "W".
4. Ask students to list items made out of wheat. Keep track of them on a white or chalkboard to use for "Further Exploration" below.
5. Do steps 1-4 for each of the 6 crops grown in Montana. Use a different color and letter for each crop, such as:

1. Winter Wheat . . . . . Green—W
2. Spring Wheat . . . . . .Purple—S
3. Duram . . . . . White—D
4. Alfalfa . . . . . Yellow—A
5. Barley . . . . . Blue—B
6. Oats . . . . . Orange—O

Discussion Questions

1. Which of Montana's top 6 crop(s) are closest to your hometown?
   a) What types of food are made from these crops?
   b) What types of non-food products are made from these crops?
2. Discuss how we depend on crops grown far away in Montana. How do those crops get to us across the state?
3. Do you see any patterns in where the top 6 crops are grown in Montana?

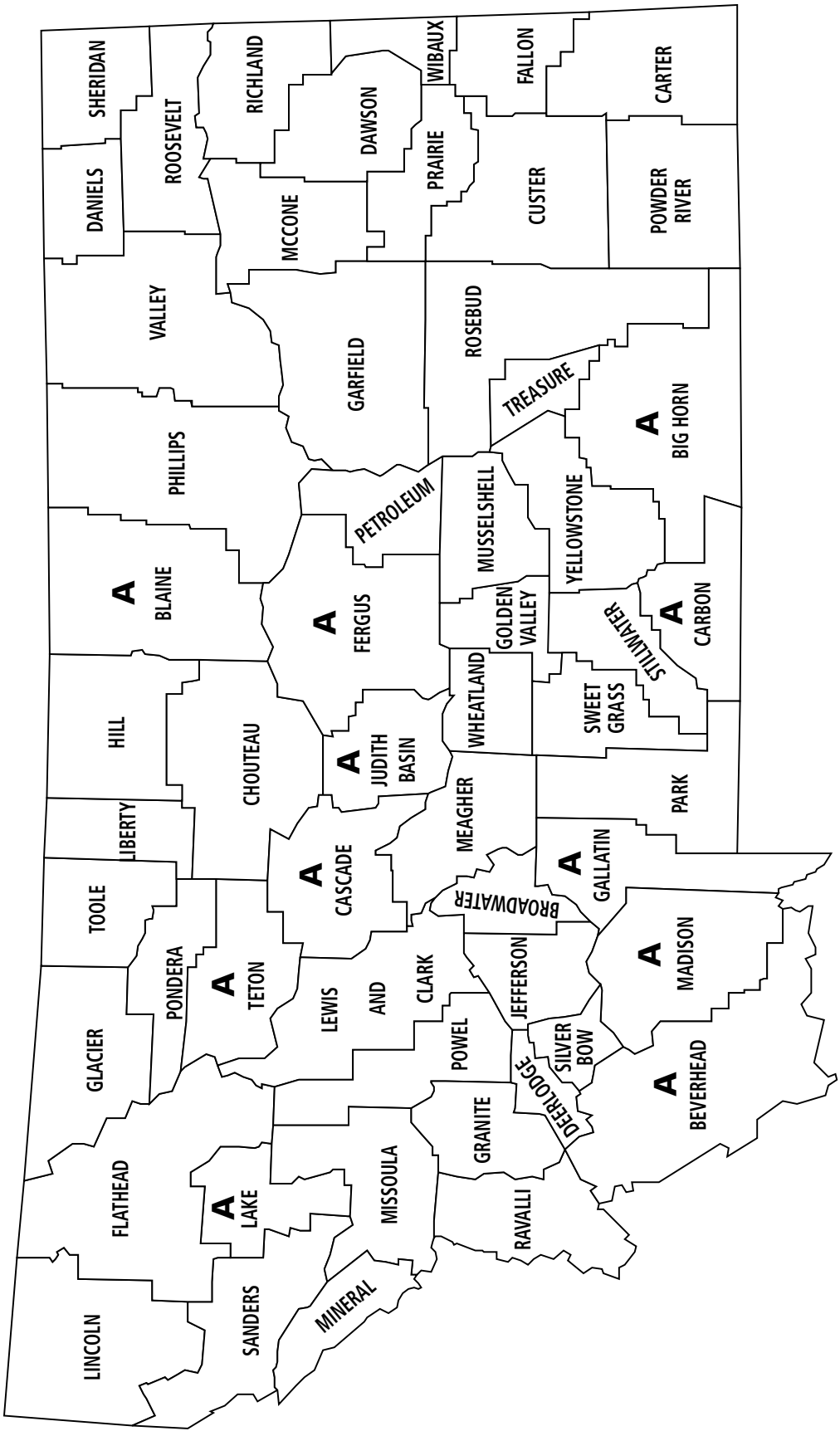
Further Exploration

- Using the product list you created earlier, have students draw a symbol for each of the Montana crops. For wheat it might be a loaf of bread. Pass out another copy of the Montana map. Have students draw symbols of where the crops are being grown versus letters.
- Bring in a Wheat Montana bread or flour bag. Explain that Wheat Montana products are made from wheat grown in the Three Forks, Montana area. Visit their website at https://www.wheatmontana.com/buy-locally and look at the list of distributors. Are there any states that do not carry Wheat Montana products?
- Go on a field trip to Wheat Montana in Three Forks. Ask to see how wheat goes from a "great grain" into the flour and bread that we consume everyday.

MONTANA HISTORICAL SOCIETY

Stacking hay at the Adel Ranch, Montana, 1939.

Alfalfa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ROSEBUD
TREASURE
A BIG HORN
PHILLIPS
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MUSSELSHELL
YELLOWSTONE
A BLAINE
A FERGUS
GOLDEN VALLEY
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A JUDITH BASIN
WHEATLAND
SWEET GRASS
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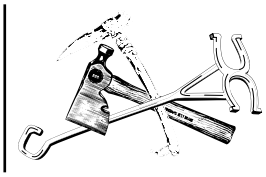
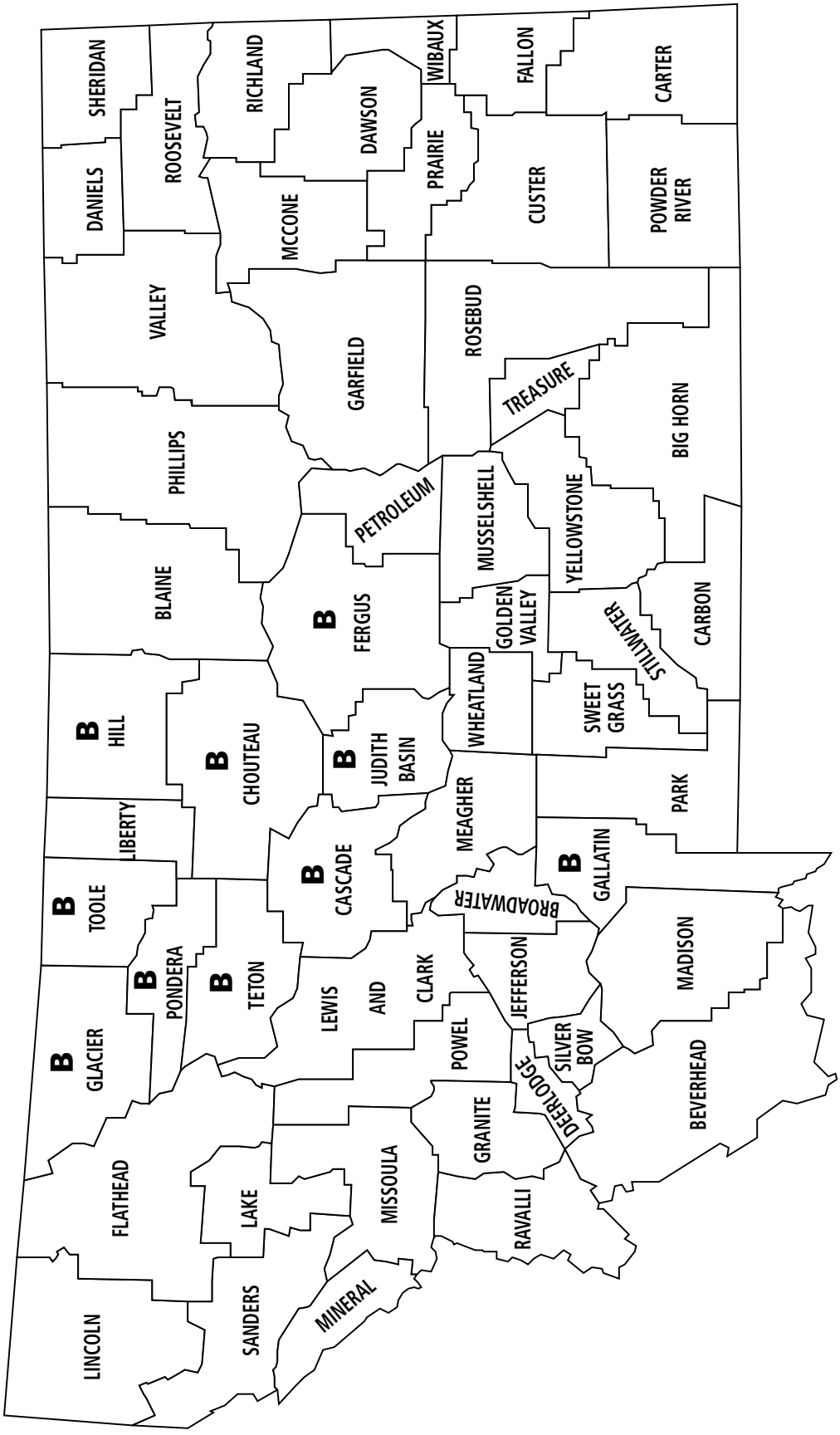


Barley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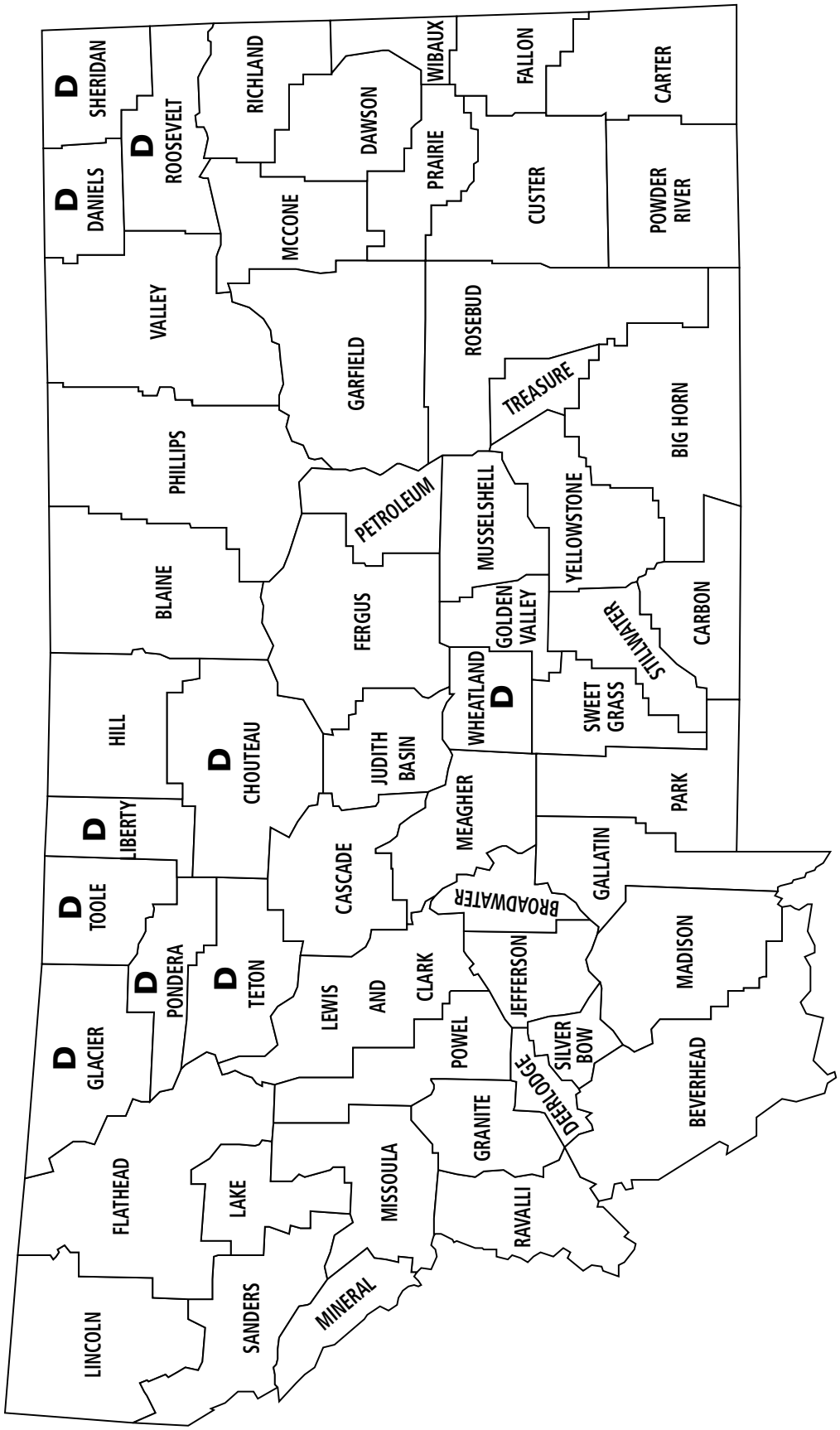
Duram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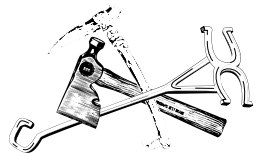
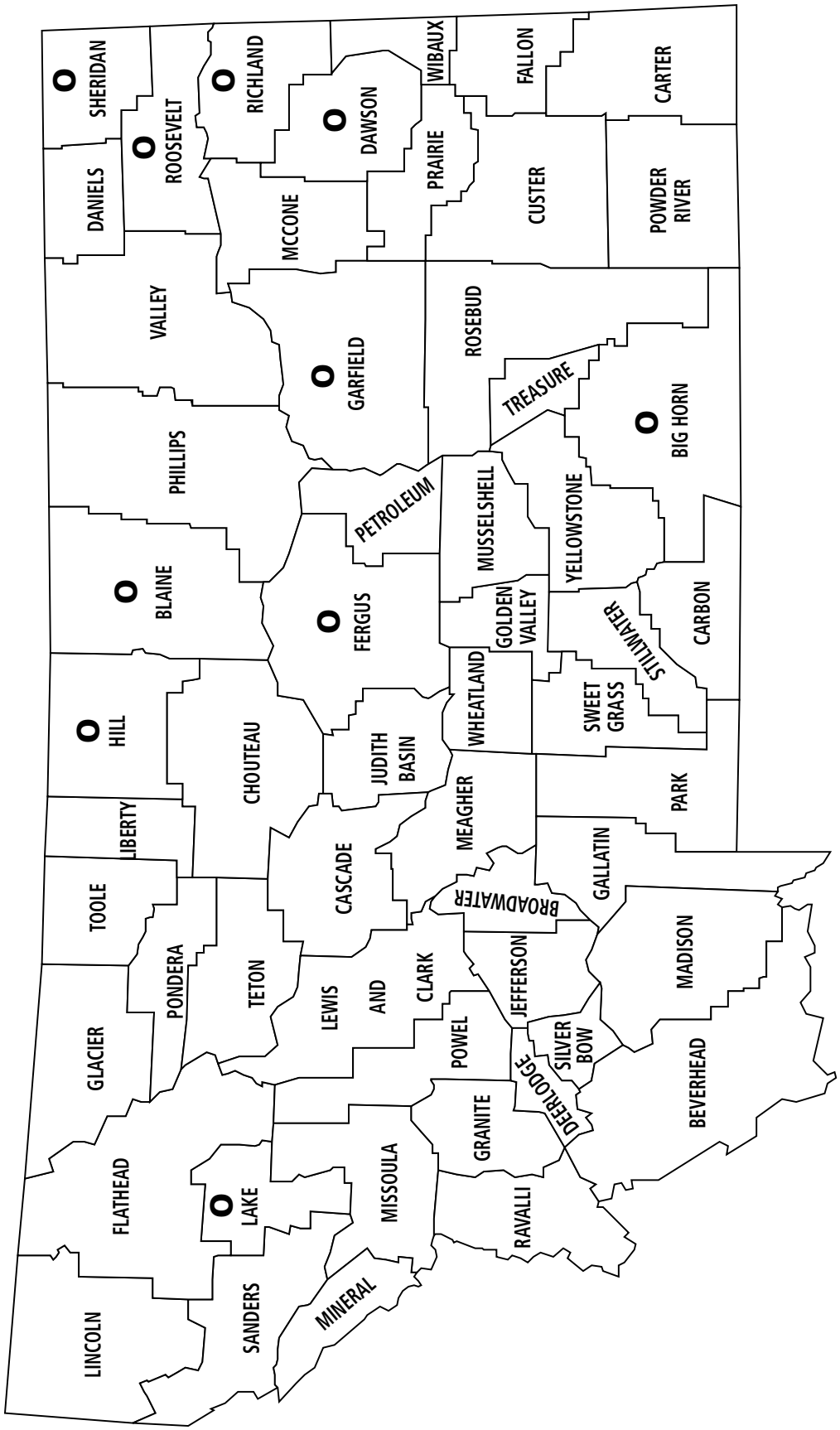


Oats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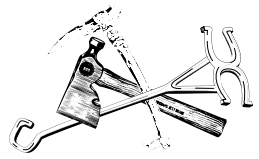
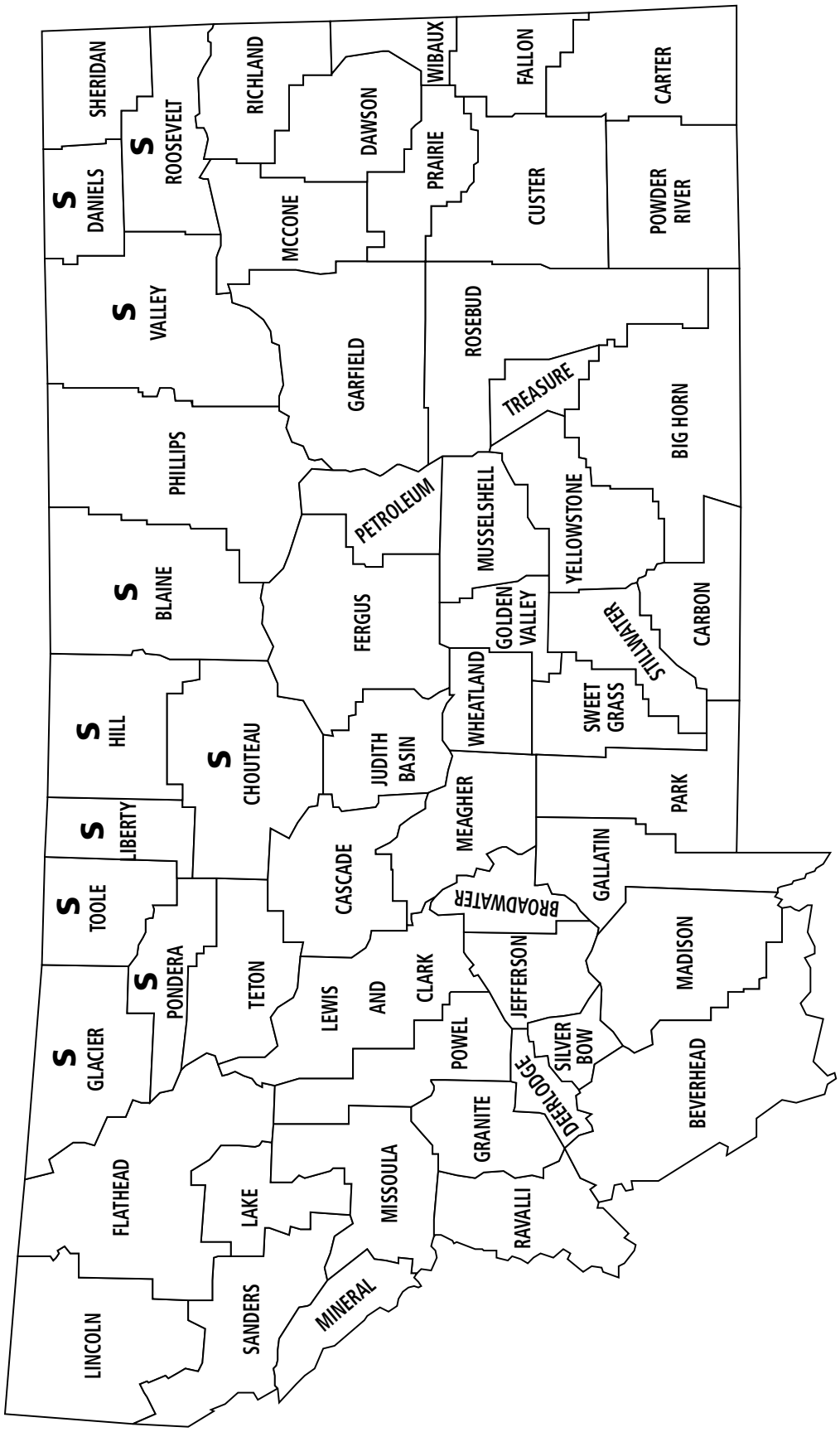
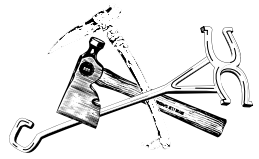
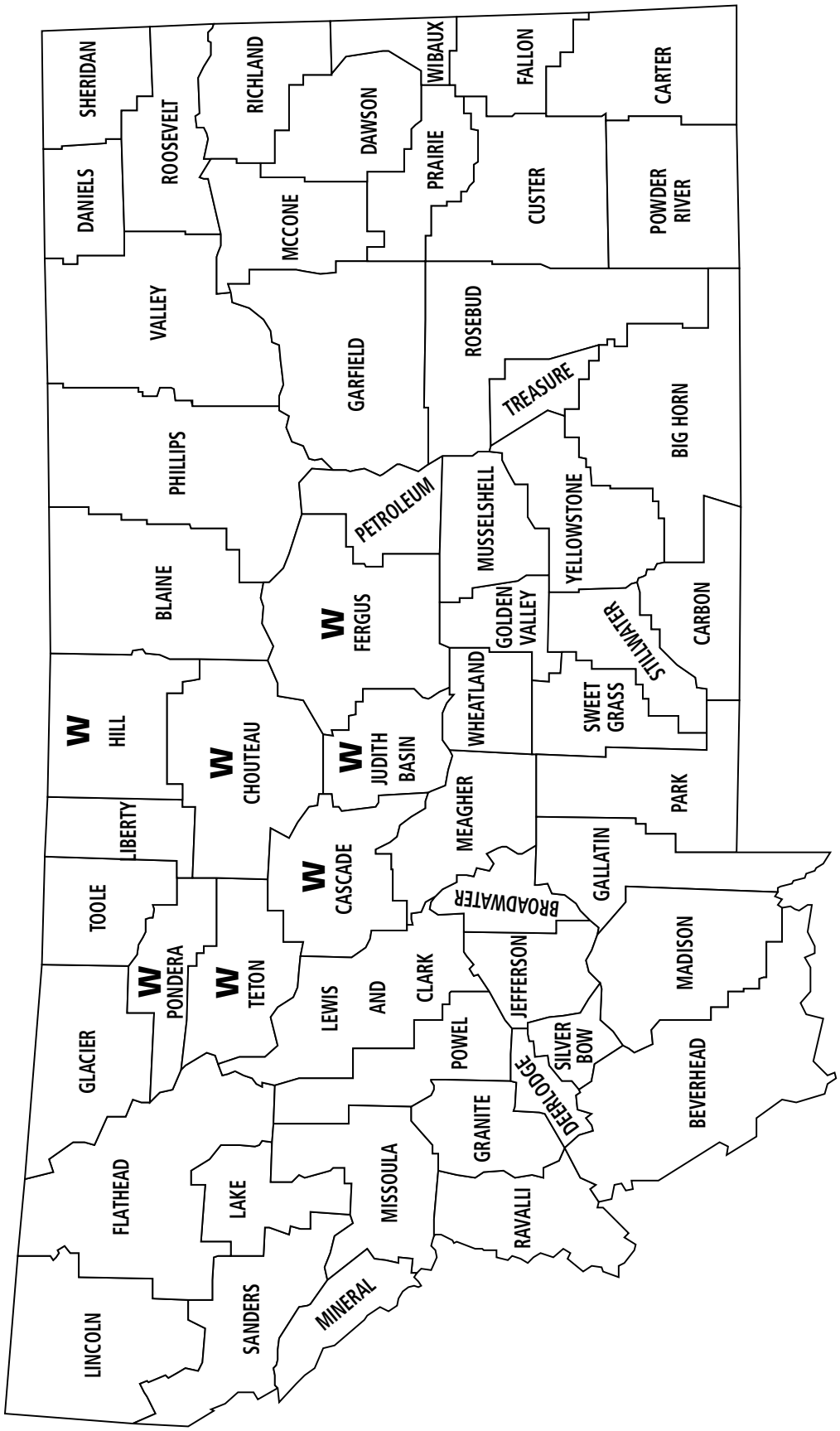


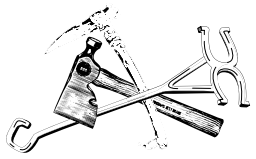
Spring Wheat

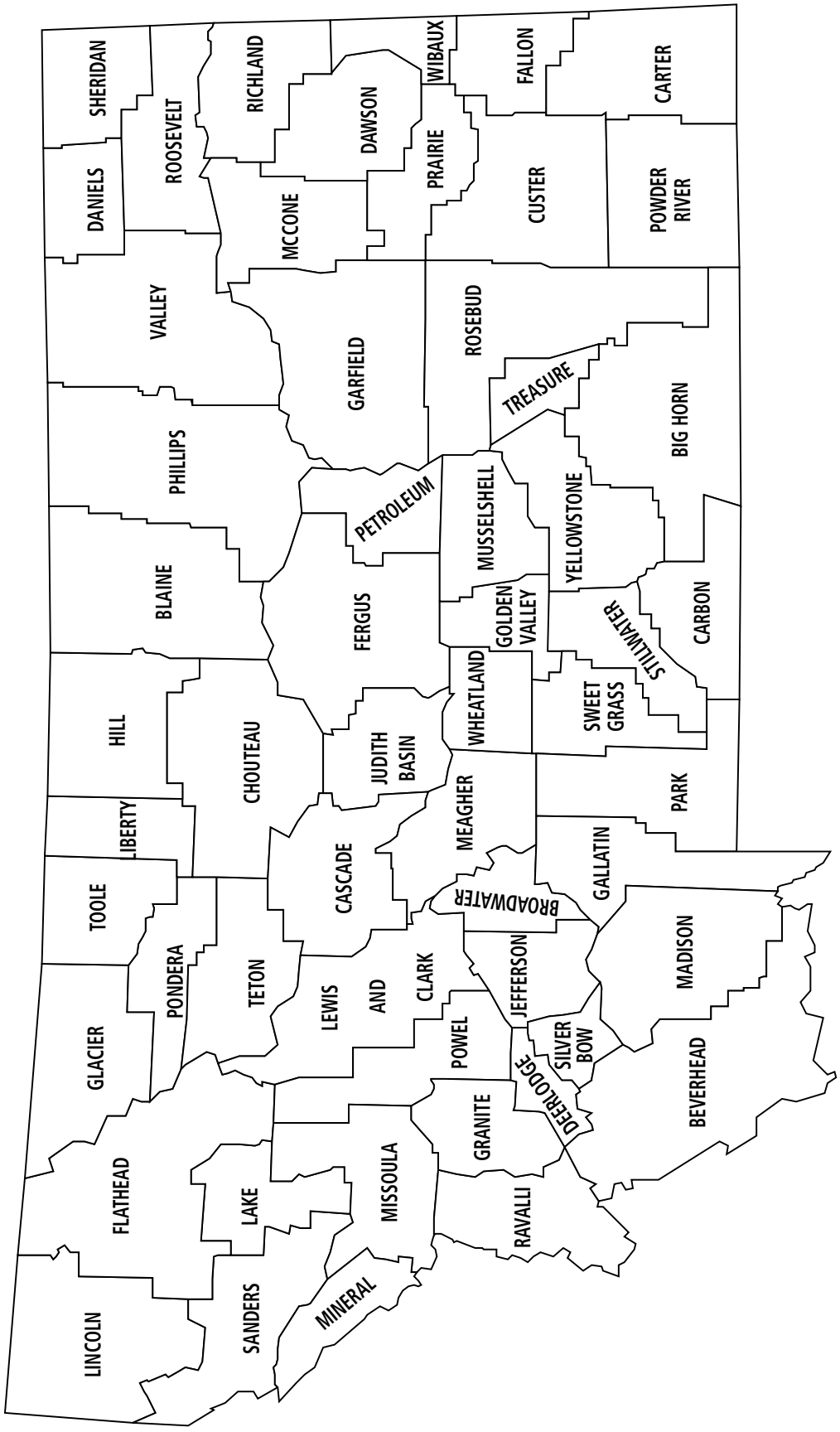




Winter Wheat



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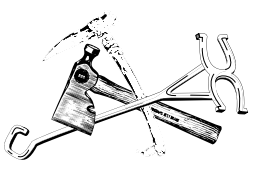


Montana's Top 10 Crops

Where are Montana's top 10 crops located across the state?

#1 Winter Wheat
#2: Spring Wheat
#3: Duram
#4: Alfalfa
#5: Barley
#6: Oats

What is your favorite Montana crop? Why?_____

_____

_____

_____

_____

_____

What crop(s) are closest to your hometown? _____

_____

_____

_____

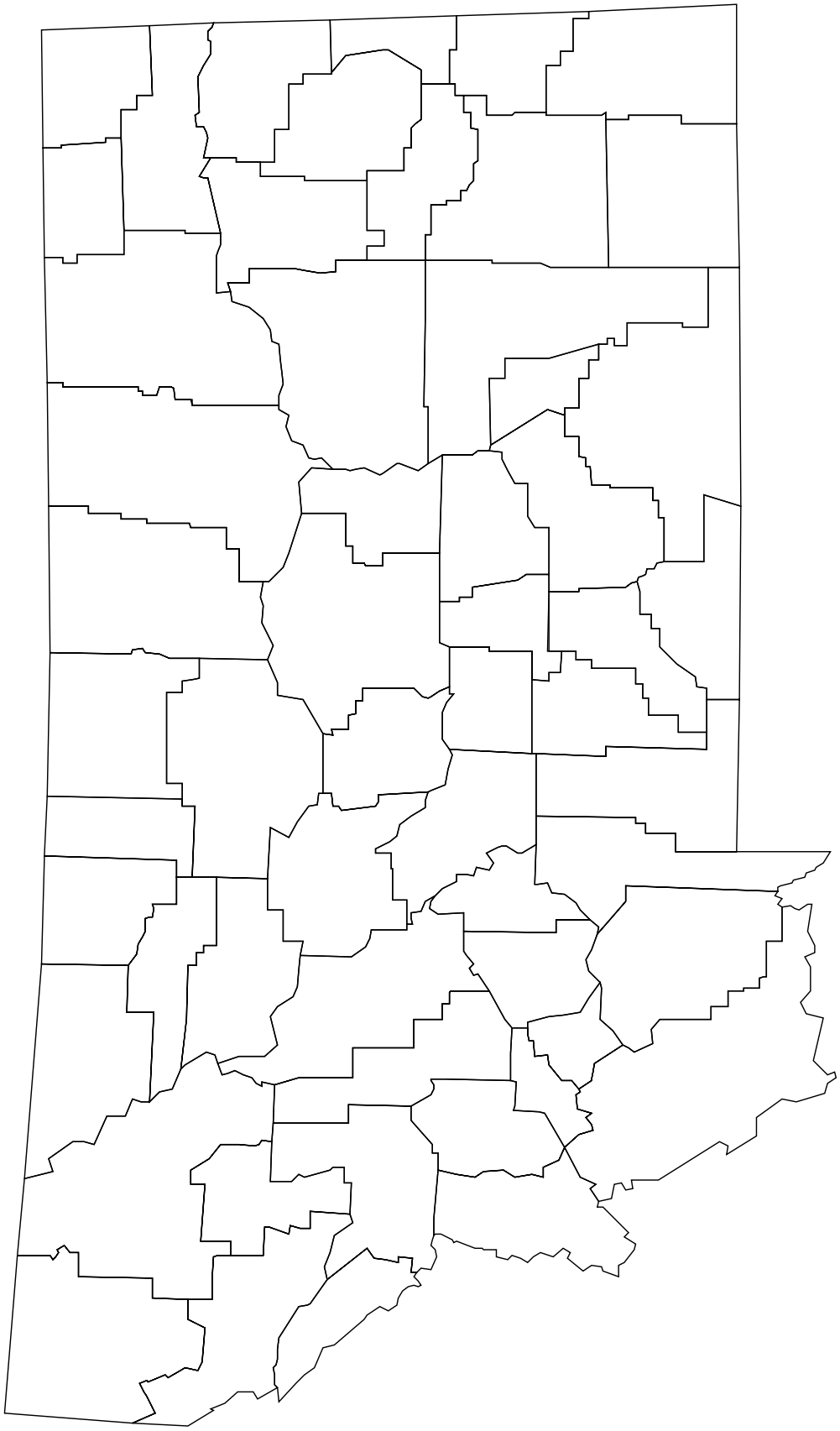
_____

_____

What can be made from the following crops:

Wheat: _____ Alfalfa: _____

Oats: _____ Barley: _____



Lesson #6: What's in a "Brand Name"?

Objectives

At the conclusion of the lesson students will be able to:

- Explain why cattle were and are still branded;
- Demonstrate an understanding of what a brand is and why they have been and are still important to cattle ranchers.

Time

One 45-50 minute class period.

Materials

- Footlocker Materials: photographs of branding and of a branded cow, branding iron
- User Guide Materials: "How to Read Brands" sheet
- Teacher Provided Materials: paper, pencils, and black markers

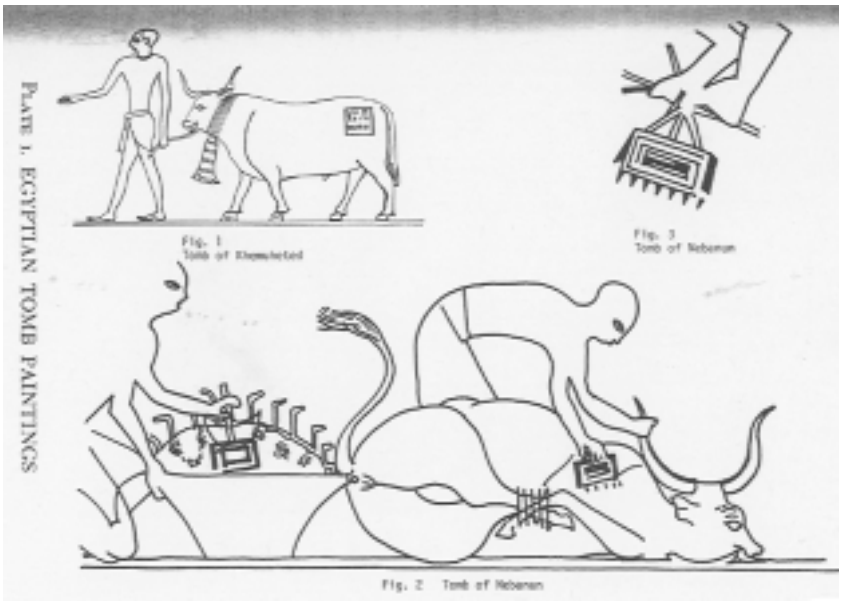
Pre-Lesson Preparation

Make a copy of the "How to Read Brands" sheet for each student. Pass out paper, pencils, and black markers to everyone.

The origin of branding livestock dates from 2700 B.C. to the Egyptians. Ancient Romans also marked livestock with a hot iron. For many years Montana cattle ranchers and their cowboys have branded livestock – most oftentimes cattle and horses. Brands are a small symbol used to mark animals belonging to a particular ranch or family.

Brands are administered by branding irons. The irons that were used in the 1800s were made of metal. Most irons used today are still made of metal. Cattle branding irons generally have a face at least $\frac{3}{8}$ inches thick. The symbols (letters, numbers, figures, or characters) are about 4 inches in length, however, horse brands were slightly smaller. Many of the same Montana brands and branding irons from the 1800s are still in use today.

Calves and foals were usually (and still are) branded in the early summer, before they get too big to wrestle. The brand was set inside a blazing fire, until it glowed red. When the brand was ready, one or two cowboys would hold



Egyptian Tomb Paintings of brandings.

THE MANUAL OF BRANDS & MARKS

(continued)

the animal down while another one administered the brand.

In order to leave a good brand and to ensure the animal is not harmed, the branding iron has to be very hot. If it isn't hot enough, the brand won't properly burn into the animal's hide and must be done over. This could harm the hide, making it harder to sell as leather and also hurt the animal. Infection is also possible if a branding iron isn't administered hot enough. The hair on the hide and outer layer of skin may become infected, often making the animal very sick. And of course, the brand can't be too hot either because then it could really hurt the animal. Getting the branding iron to the perfect temperature is very important.

Branding is the best and sometimes only way of proving ownership of lost or stolen animals. An unbranded animal is almost impossible to legally identify. No other way is as easily visible as branding, not only for identification, but as a deterrent to theft. Today, many ranchers are using ear tags or tattoos to "brand" their livestock. However, many ranchers still rely on the traditional hot branding iron to mark their animals.

Procedure:

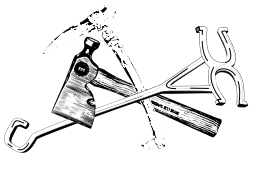
1. Ask students if they know what a cattle brand is. After some discussion, pass around the photograph of the cow with a brand on it.
2. Ask students if they know how the brand is applied. After some discussion, pass around the photograph of the branding taking place and the branding iron.
3. Ask students what they think a brand represents and why cattle ranchers use them. Mention the word symbol and ask them to describe what a symbol is. (Some examples could be letters of the alphabet, numbers, different shapes like a zig-zag line representing lightning, a smiling face to represent happiness). Then ask them what symbol they use every day to describe themselves (their name).
4. Pass out copies of the "How to Read Brands" sheet to each student. Work as a class to read the first few examples. have students complete the rest individually.

Discussion Questions

1. Why do you think that cattle ranchers still use brands today? Why don't ranchers just use their name as a brand versus a symbol?

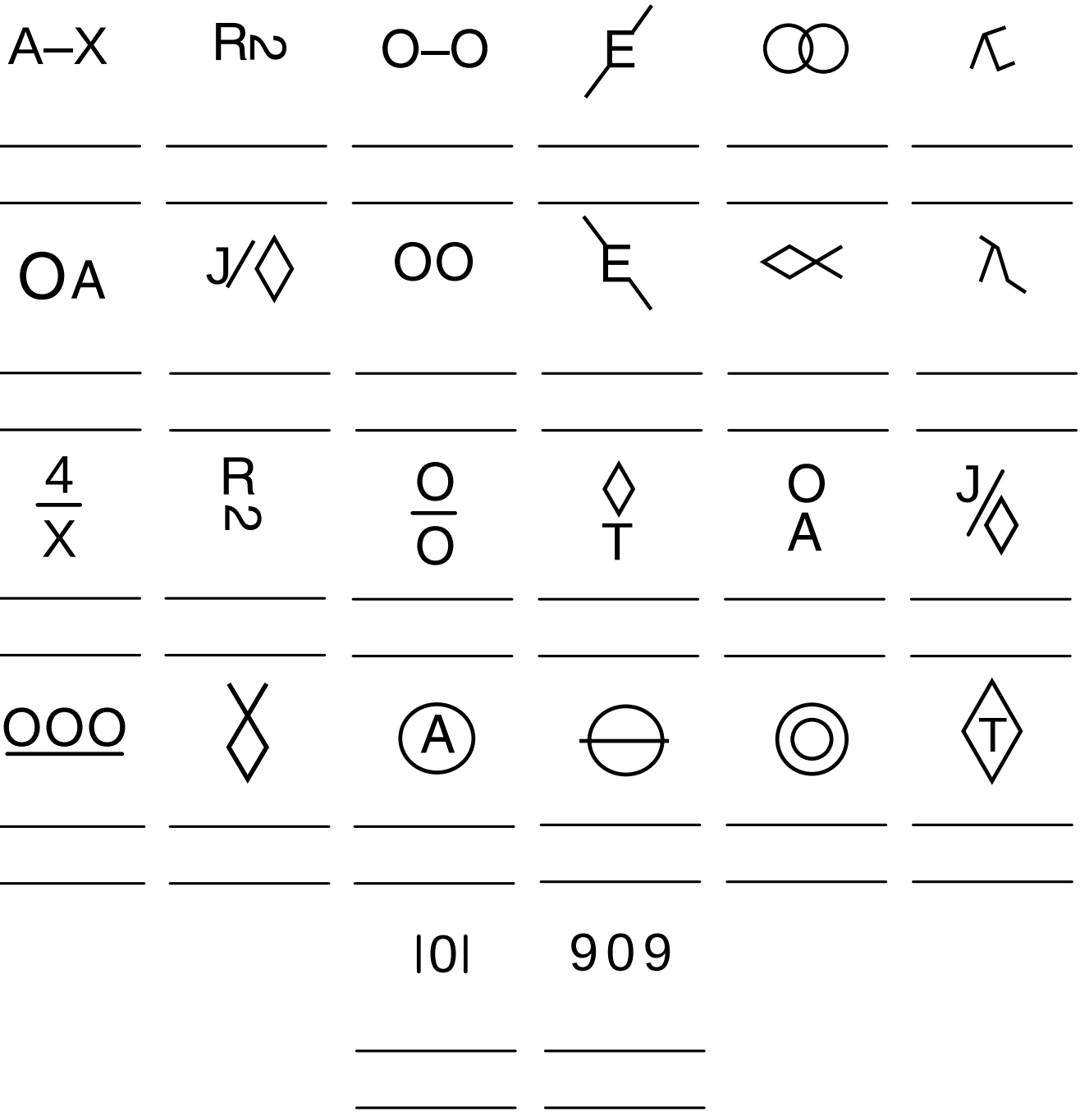
Further Exploration

- After doing the "Brands" sheet, ask students to create their own brand. What would the brand represent? The name of their house? Family name? Ranch name if they have one or pretend if they don't? Have students carve their brands into potatoes, sponges, or neoprene. Use ink pads or acrylic paint to stamp brands onto different colors and weights of paper to get various affects. Have students share their brands with one another and even trade.
- Does anyone in your classroom live on a ranch or have friends/family who do? Ask them to come into the classroom to share their brand and explain what the symbol means to them. Ask if your class could visit during branding or if you all could visit the ranch to see branded cattle.



How to Read Brands

Try your luck at deciphering these brands:



Answers to "How to Read Brands"

1. A Bar X
2. R Lazy Two
3. O Bar O
4. Slash Connected E Connected Slash
5. Lapped Circles
6. Open A Half Box Connected
7. Circle A
8. J Slash Diamond
9. Double O
10. Slash Connected E Connected Slash
11. Diamond and A Half
12. Open A Connected Broken Bar
13. 4 Bar X
14. R Lazy 2
15. O Bar O
16. Diamond T
17. Circle A
18. J Slash Diamond
19. Three O Rail
20. Diamond and A Half
21. Circle A
22. Circle Bar
23. Double Circle (Doughnut)
24. Diamond T
25. One O One
26. Nine O Nine

MONTANA HISTORICAL SOCIETY

Close-up view of a cow with APB, the Illinois and Montana Cattle Company brand and other brands on its side—Miles City, Montana, not dated.

Lesson #7: The Northern Pacific Railroad

Objectives

At the conclusion of the lesson students will be able to:

- Demonstrate a basic understanding of the current rail system in Montana;
- Discover the different types of products currently being transported through Montana via the railroad.

Time

One 45-50 class period to get started.

One 45-50 class period to report findings.

Materials

- Footlocker Materials: photographs of railroad workers and the railroad, railroad spike, Northern Pacific Sign, NP poster
- User Guide Materials: Northern Pacific Industrial Guide excerpts for Sidney, Helena, and Bozeman
- Teacher Provided Materials: n/a

Pre-Lesson Preparation

Draw a large map of Montana on the piece of poster board. (You can cut it out or not.)

"In 1887, James J. Hill made railroad history when his crew of 9,000 men finished the 550-mile line of the St. Paul, Minneapolis, & Manitoba Railroad from Minot, North Dakota, to Great Falls in less than eight months. Helena's Col. Charles Broadwater completed Hill's Montana Central line from Great Falls to Butte, via Helena in 1889. This hard-won route provided Hill and the copper kings with a direct shipping route to the Great Lakes.

That same year, Hill and his associates consolidated their holdings to form the Great Northern Railway Company. This company expanded westward from Havre over Marias Pass through Columbia Falls and Kalispell and into Idaho. It reached Seattle in 1893. The well-managed Great Northern Railway Company not only survived the nationwide depression of 1893-94, but Hill and associates acquired controlling shares of the troubled Northern Pacific. The Great Northern and Northern Pacific were known as the 'Hill Lines,' and Hill was crowned the 'Empire Builder.'

MONTANA HISTORICAL SOCIETY

Working on the Northern Pacific Railroad near Wibaux, Montana, between 1892 and 1906.

(continued)

The Chicago, Burlington & Quincy Railroad reached the Montana site of Huntley in 1894, with an agreement to use Northern Pacific tracks into Billings. In 1901 Hill and the other owners of Great Northern and Northern Pacific purchased control of the Burlington, which had a direct connection to Chicago. In 1969 these holdings became the Burlington Northern. The Chicago, Milwaukee and St. Paul Railway Company, 'the Milwaukee Road,' completed a line through central Montana and along the Clark Fork River to Seattle in 1909. This railroad was the last main line construction in Montana but made history as the first long-distance electrified rail span in America," *Montana Almanac*.

MONTANA HISTORICAL SOCIETY

Great Northern Station, Somers, Montana, no date.

And people can still travel on the railroad today! AMTRAK (National Railroad Passenger Service) has passenger service across northern Montana with final destinations in Portland and Seattle in the west and Chicago and Minneapolis/St. Paul to the east. The "Empire Builder" train has sleeper cars called "Pullmans" and coach seating with comfortable, reclining chairs. Taking the train is not only a great way to travel effortlessly, but it's fairly inexpensive, and allows passengers to view spectacular scenery without having to drive.

Procedure:

1. Show students the photographs of men working on the railroad. Ask them how the railroad has changed from the late 1800s to today. How is it similar? (transportation of cargo and people)
2. While you're talking, pass around the railroad spike and have students guess what they were and are still used for.
3. Next, pass out copies of the Northern Pacific Industrial Guide for Sidney, Helena, and Bozeman.
4. Break the class into three groups. Assign each group a town – Sidney, Helena, or Bozeman.
5. Ask each person from the three groups to choose four industries to research throughout the week. Explain that these were Montana industries from 1954 and they, as junior historians will be responsible for determining the following:
   a. Which industries are still in business today?
   b. Which of these industries have the same name today as they did in 1954?
   c. Which industries still make/sell the same items today as they did in 1954? Which do not?
   d. Who owned the industries in 1954?
   e. Are any of the industries still owned by the same individuals they were owned by in 1954? If not, who owns them today?
   f. If the industry they choose is not in business today, is there a comparable business in town? If not, why?
   g. Out of their four chosen industries, which is their favorite and why?

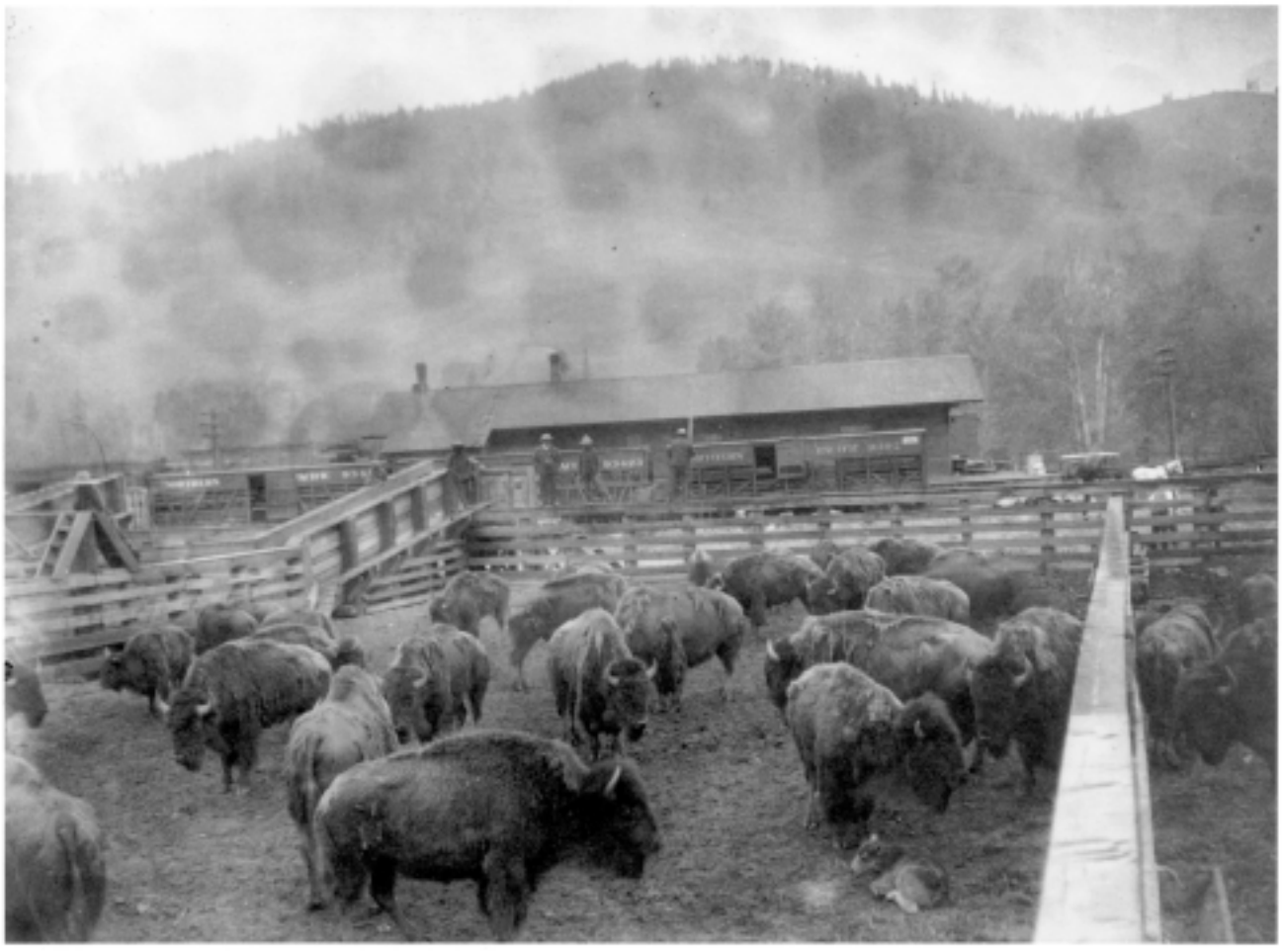
(continued)

h. Is the Northern Pacific still running the rails today? If not, which railway system(s) have taken its place?

i. Is the railway system still used to transport any of the students' chosen items to and from their Montana city? If not, and if the item(s) are still being made, how are they transported?

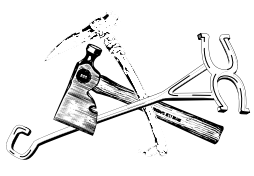
Further Exploration

- Have students report on their findings of the weeklong activity in an oral report given in front of the class.
- Ask students to dress the part for their report, like someone from their favorite industry from the 1950s.
- Have students create their own Montana Railroad Poster encouraging people to ride the "Empire Builder". Have them use the NPR travel poster as their guide (located in the trunk).
- Have students research how the various types of cargo are transported via the railroad. For example, how are coal, lumber, and automotive parts transported?
- Do students know anyone who works for the railroad? Could that person come in and discuss Montana's rail systems with the class? Visit your local railroad and ask for a tour of the depot and a train. Ride on a train!



MONTANA HISTORICAL SOCIETY

Bison being loaded onto a Northern Pacific train, Ravalli, Montana, 1907.



Northern Pacific Industrial Guide

Industry	Business	Track Location
HELENA, MONT.		
Anderson Motors	Autos (Chevrolet)	Team track
Armor Metal Products	Tanks, etc.	NP
Associated Food Stores	Wholesale groceries	NP
Barnett Iron Works	Scrap iron	GN-NP
Beatrice Foods	Dairy products	Team track
Beck Motor Co.	Autos (Plymouth & DeSoto)	Team track
Big West Oil Co.	Bulk oil & gas	GN
Billart Produce Co.	Manufacturers aluminum awnings	NP
Builders Supply Co.	Building material	NP
Caird Engineering Works	Foundry	GN
California Co.	Bulk oil & gasoline	GN-NP
Capitol Motors	Autos (Ford)	Team track
Carson Construction Co.	General contractors	NP
Carter Oil Co.	Bulk oil	GN
City Fuel Co.	Fuel yard	GN
Clack, H. Earl, Co.	Bulk oil & gas	GN
Columbia Paint Co.	Paint	NP
Consolidated Freight Lines	Transportation & storage	NP
Continental Oil Co.	Bulk oil & gas	GN
Coulter Transfer Co.	Storage warehouse	GN
Cowger, T. S., Co.	Tanks, etc.	NP
Duncan Fruit Co.	Fruit & vegetables	GN
Eck Oil Co.	Bulk oil & gas	GN-NP
Eddy Bakeries, Inc.	Bakery goods	GN
Elk River Concrete Products	Concrete products	GN-NP
Foley's Cabinet Shop	Woodworking shop & mill	GN
Frontier Motors	Autos (Jeeps)	Team track
Gamble Store	Retail merchandise	Team track
Gamble Robinson Co.	Fruit & vegetables	GN
Green Meadows (Carson Construction Co.)	Warehouse	NP
Goldberg Hide & Wool Co	Hides & pelts	NP
Hand, Rock & Co.	Machinery	Team track
Helena Bottling Co.	Bottlers	Team track
Helena Hardware Co.	Hardware	GN
Helena Motors	Autos (Kaiser-Frazer)	Team track
Helena Sand & Gravel Co.	Sand & gravel	NP
Helena Transfer & Storage Co.	Transfer & storage	GN
Higgins, W. L.	Wholesale spuds	Team track
Holley Furniture Co.	Furniture	Team track
Holter Hardware, A. M.	Hardware	GN-NP
Interstate Lumber Co.	Building material	NP-GN
Johnston Motors	Autos (Mercury & Lincoln)	Team track
Kain Granite Co.	Monuments & building stone	NP-GN
Kessler Brewing Co.	Beer	NP
Latus, D. N. Co.	Electrical appliances	NP
Linder-Kind Lumber Co.	Lumber yard	Team track
Mason, George	Auto accessories	NP
McGaffick, Geo.	Machinery	Team track
Miller Richardson Supply	Builders supplies	NP
Monarch Lumber Co.	Building material	NP-GN
Montana Liquor Control Board	Liquor warehouse	GN
Montana Meat Co.	P. H. P.	Team track
Montana Motor Supply	Auto supplies	Team track
Montana Powder & Equipment	Machinery	Team track
Montana Power Co.	Power & light	NP
Montgomery Ward Co.	General merchandise	NP
Mountain States Tel. & Telegraph Co.	Telephone material	NP
Mutual Coal Co.	Coal	NP

(continued)

Industry	Business	Track Location
Nash Finch Co.	Wholesale groceries	NP
Northwest Freight Lines	Transfer & freight	GN
Northwest Motors	Autos (Chrysler)	Team track
Park Avenue Motors	Autos (Pontiac)	Team track
Phillips Petroleum Co.	Bulk oil & gas	NP
Pioneer Motors	Autos (Studebaker)	Team track
Placer Motors	Autos (Oldsmobile)	Team track
Power Townsend Co.	Machinery, farm products, hardware	NP
Rogers, Norman	Poles	NP
Sheehan, H. F., & Bros.	Wholesale candy & beverage	Team track
Smith-Dahl Motors	Autos (Dodge & Plymouth)	Team track
Socony-Vacuum	Bulk oil & gas	NP
Standard Oil Co.	Bulk oil & gas	NP
State Highway Commission	Oil storage, road machinery	NP
State Nursery & Seed Co.	Seeds	GN
Steffick Equipment Co.	Machinery	NP
Stump, Cliff, Sporting Goods	Wholesale sporting goods	Team track
Texas Oil Co.	Bulk oil & gas	GN
Treasure State Transfer	Warehouse	Team track
Tucker, E. J., Distributing Co.	Beer distributors	Team track
Union Oil Co.	Petroleum products	NP
Watson Motor Co.	Autos (Buick)	Team track
Western Clay Manufacturing Co.	Brick & tile	NP

Reciprocal Switching - Switching charges on competitive cars are absorbed by both lines.

BOZEMAN, MONT.

Bon Ton Flour Mills	Flour-grain	CMStP&P
Bozeman Canning Co.	Pea canning plant	NP-Milw.
Bozeman Bottling Co.	Bottling (Coca-Cola)	NP
Bozeman Cashway Lumber & Hardware Co.	Lumber & hardware	Team
Bozeman Implement Co.	Farm implements	NP
Bozeman Livestock Comm. Co.	Livestock	NP-Milw.
Bozeman Sheet Metal Co.	Sheet metal products	NP
California Company	Petroleum products	CMStP&P
Canyon Tractor Co.	Farm implements	Team
Carter Oil Co.	Petroleum products	NP
City of Bozeman	Miscellaneous	Team
Continental Oil Co.	Petroleum products	CMStP&P
Ellinghouse & Laing	Petroleum products	NP
Empire Auto & Implement	Auto parts & supplies	Team
Farmers Union Grain Terminal	Lumber & feed	NP
Gallatin County	Miscellaneous	Team
Gallatin Farmers Co.	Petroleum products	Team
Gallatin Hardware Co.	Hardware	Team
Gallatin Lumber Co.	Lumber & fuel	NP
Gallatin Valley Seed Co.	Seed pea warehouse	CMStP&P
Gamble-Robinson Co.	Wholesale groceries	NP
Gamble-Skogmo Co.	Hardware	Team
Haggerty-Messmer Co.	Building products	Team
Hines Motor Supply	Auto parts & supplies	Team
Hylite Motors	Autos & parts	Team
Idaho Pole Company	Poles	NP
I. M. Johnson Co.	Building products	Team
Kenyon-Noble Lumber Co.	Lumber & fuel	Team
Ketterer Oil Co.	Petroleum products	CMStP&P
Lundgren Ford, Inc.	Autos & parts	Team
Main Motors	Autos & parts	Team
McCay Hardware Co.	Hardware	Team
Misco Mills	Feed & grain	NP

(continued)

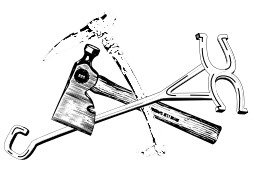
Industry	Business	Track Location
Monarch Lumber Co.	Lumber & fuel	NP
Montana Elevator Co.	Grain	NP
Montana Flour Mills	Flour	NP-Milw
Montana Motor Supply	Auto parts & supplies	NP
Montana Power Co.	Elec. & natural gas	NP
Montana Seed Co.	Seed	Team
Montana State College	Miscellaneous	CMStP&P
Montgomery Ward Co.	Hardware & dry goods	Team
Mountain Machinery	Farm implements	Team
Nash-Finch Co.	Wholesale groceries	CMStP&P
Norine Motors	Autos & parts	Team
Northern Auto Co.	Autos & parts	CMStP&P
Otto-Barclay Co.	Farm implements	Team
Owenhouse Hardware Co.	Hardware	NP
Pacific Hide & Fur Co.	Scrap iron	Milw
Phillips Petroleum Co.	Petroleum	NP
Rolfe & Wood	Autos & parts	Team
Rusch Cold Storage	Frozen products	NP
Safeway Stores	Groceries	Team
Sawyers Stores	Groceries	NP
Saunders Oil Co.	Petroleum products	NP
Standard Oil Co.	Petroleum products	CMStP&P
State Highway	Miscellaneous	CMStP&P
State Auto	Autos & parts	Team
Story Motor (Texas Co.)	Petroleum products	CMStP&P
Strong's, Inc.	Autos & parts	Team
Union Distributing Co.	Petroleum products	CMStP&P
Vollmer Packing Co.	Tallow & hides	NP

Reciprocal Switching - Switching charges on competitive cars are absorbed by both lines.

SIDNEY, MONT.

Bach, Nels	Feed & wool	NP-GN
Bismarck Grocery	Wholesale groceries	NP-GN
Carter Oil Co.	Petroleum products	NP-GN
Chapman, Kenneth	Bulk oil & gas	NP-GN
Clack, H. Earl Co.	Bulk oil & gas	NP-GN
Continental Oil Co.	Bulk oil & gas	NP-GN
Farmers Mercantile Elevator Co.	Grain elevator	NP-GN
Farmers Union Oil Co.	Bulk oil & gas	NP-GN
Halliburton Oil Well - Cement Plant	Bulk cement plant	NP
Holly Sugar Corp.	Sugar factory	NP-GN
J. & J. Construction Co.	Power lines	Team track
Kelly-Coppedge Co.	Building material storage	NP
King, John	Feed warehouse	NP
LaLonde, Albert, Const. Co.	Contractor	NP-GN
Montana-Dakota Utilities Co.	Warehouse	NP-GN
Mountain States Telephone & Telegraph Co.	Poles	NP-GN
Occident Elevator Co.	Grain elevator	NP-GN
Pacific Hide & Fur Co.	Hides, furs & junk	Team track
Russell Miller Milling Co.	Flour mill	NP-GN
Sidney Oil Co.	Bulk oil & gas	NP-GN
Standard Oil Co.	Bulk oil & gas	NP-GN
Stockman's Coop. Assn.	Feed warehouse	NP-GN
Yoder Motor Co.	Bulk oil & gas	NP-GN
Yellowstone Livestock Comm.	Livestock	NP-GN

All located on N.P. tracks joint with G.N.



Hats Off to Montana Trades!

Located in this trunk are a number of hats:

Cowboy hat	Miner's hat	USDA Forest Service ranger hat
Conductor's hat	Fur hat	Fish Wildlife & Parks hat

Each hat represents a Montana trade. Have students put a hat on and answer the following questions:

1. When you put this hat on you are a:

Rancher/Cowboy	Forest Ranger	Gold Miner
Train Conductor	Fur Trapper	Wildlife Biologist

2. Here's a list of some of the things you would do each day: _____

_____

3. Here's a list of some of the things I do each week: _____

_____

4. The rest of my uniform would include the following pieces of clothing: _____

_____

5. If would probably use the following tools when I have

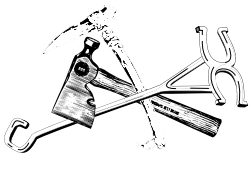
my_____ hat on:

Branding iron	Watch	Compass
Rope	RR tie	Journal/pen
Miner's light	Rifle	Binoculars
Pickaxe	Trap	Animal/Bird Guide Books

6. What other tools would you use? _____

_____

7. On the back of this sheet, draw a picture of what you would look like as a professional in each of the six Montana trades listed above.



Word Find

Agriculture
Anthropologist
Assay
Barter
Branding iron
Cache
Corps of Discovery
Corps
Crop
Flax Seed
Fur trader
Fur trapper
Fur
Gold
Goods
Hide
Historian
Identify
Journal
Log Jam
Lumbering
Mining
Panning
Pelt
Pirogue
Placer
Prospector
Pullman
Rail System
Slag
Sluicing
Smelter
Symbol
Timber
Trading post
Trapper

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

How to Talk Trapper

Fill in the blanks with the appropriate "trapper" words from the 1800s. Each word or phrase may be used more than once.

Trapper words:

Bale: A bale of 10 beaver skins was a unit of measure in the American fur trade.

Beaver down: An invitation to belly up to the fire and enjoy a feast of fat, succulent beaver tail.

Big doin's: The annual summer rendezvous in the mountains where trappers joined traders and friendly Indians in celebrating and trading.

Buffalo chips: The dried buffalo dung which very successfully substituted for wood when it was not available.

Bull thrower: A general pet name for a trapper's rifle.

Cabin fever: A sensation of imprisonment, a restlessness, a high level of irritability, experienced when cooped indoors too long over a hard winter or a bad spell of weather.

Cuttings: A wooded area around a beaver pond or stream, littered with fresh wood chips and gnawed tree stumps, sure signs that beaver were present.

Equipment: The trapper's gear for work including traps, scent, bait, knives, and hatchet.

Made beaver: A completely cured and finished beaver skin.

Meat straight: A diet of nothing but meat. It was frequently a matter of necessity during the long winter months.

Pack: Consisted of 60 to 80 pelts of otter, muskrat, beaver, or raccoon. They were packed in bundles weighing about 100 pounds.

Pelt: An animals skin – what trappers called animal hides.

Shanty: The hunters' name for a hut or lean-to in the mountains.

Skin: Classified by the fur companies as the hides of an animal.

Up to beaver: The beaver was considered a wise animal by Indians; a smart, experienced trapper.

Up to trap: A trap-wary, trap-wise beaver.

MONTANA HISTORICAL SOCIETY

Trapper Louie Yellow Wolf, a Blackfoot Indian, near Browning, Montana.

Up to trap: A trap-wary, trap-wise beaver.

Before I go out a trappin', I need to be sure I've got my _____ and I always bring my _____ _____ just in case I run into a bear in the area.

When looking for beaver, I look for _____, a sign that they've been in the area. But they can be tricky to trap. Some are smart and _____ _____ _____. It's important to become _____ _____ _____ because they are so tricky and wise.

I can't wait to invite my trappin' buddies over to _____ _____ because beaver tail is good. But since I don't have any wood for the fire, I'll have to use _____ _____, which is a good substitute and plentiful on the Great Plains.

It takes a long time to tan a hide, but it's worth it. I'll get more money from a _____ _____ than a beaver hide not cured or tanned.

This _____ of raccoon pelts should bring a fair amount at the trading post. In my hut or _____ I've got over 100 _____ from beaver, otter, raccoon, and fox. That's what we all call 'em in Montana, but the fur companies call them _____.

Later this summer, all of us trappers in Montana will get together with the local Indians for _____ _____, to celebrate and trade. I've got a cooking pot that I'll trade for a _____, 10 beaver skins. Can't wait because I currently have a bad case of _____ _____ being indoors so much this spring due to all of the rain and wind. And during the winter we ate _____ _____, so I look forward to this summer for berries and greens.

Create your own story with words used by Montana trappers.

Answers

Before I go out a trappin', I need to be sure I've got my equipment and I always bring my bull thrower just in case I run into a bear in the area.

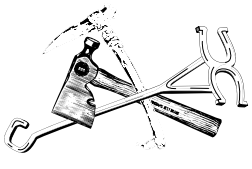
When looking for beaver, I look for cuttings, a sign that they've been in the area. But they can be tricky to trap. Some are smart and up to trap. It's important to become up to beaver because they are so tricky and wise.

I can't wait to invite my trappin' buddies over to beaver down because beaver tail is good. But since I don't have any wood for the fire, I'll have to use buffalo chips, which is a good substitute and plentiful on the Great Plains.

It takes a long time to tan a hide, but it's worth it. I'll get more money from a made beaver than a beaver hide not cured or tanned.

This pack of raccoon pelts should bring a fair amount at the trading post. In my hut or shanty I've got over 100 pelts from beaver, otter, raccoon, and fox. That's what we all call 'em in Montana, but the fur companies call them skins.

Later this summer, all of us trappers in Montana will get together with the local Indians for big doins, to celebrate and trade. I've got a cooking pot that I'll trade for a bale, 10 beaver skins. Can't wait because I currently have a bad case of cabin fever being indoors so much this spring due to all of the rain and wind. And during the winter we ate meat straight, so I look forward to this summer for berries and greens.



Pipe Cleaner Brands

Utilizing Montana brands or brands that students have created, children can make a pipe cleaner brand.

Time

Approximately 30 minutes.

Materials

- User Guide Materials: Montana Brands information sheet
- Teacher Provided Materials: 4-5 pipe cleaners per student, paper, pencils, black markers if neither of the following has been done by students: stamps made from student's brands and/or symbols created using "The History & Development of Symbols" worksheet.

Procedure:

1. Before doing this activity, create a pipe cleaner brand utilizing one of the brands, from the Montana Brands information sheet located in the User Guide, to show the class.
2. Show students your pipe cleaner brand. Make special notice of the positive and negative spaces in the Montana Brand that you used as well as your pipe cleaner brand.
3. Ask students to select their favorite brand or symbol to create out of pipe cleaners. It can be their favorite Montana brand from the information sheet, a stamp or symbol that they created in an earlier activity related to the Branding unit.
4. Give each student 4-5 pipe cleaners. Tell students that they can fasten the pipe cleaners any way they wish, but that they cannot cut of break them.
5. Ask students to study their selected brand and again remind them to take the amount of negative and positive space into consideration.

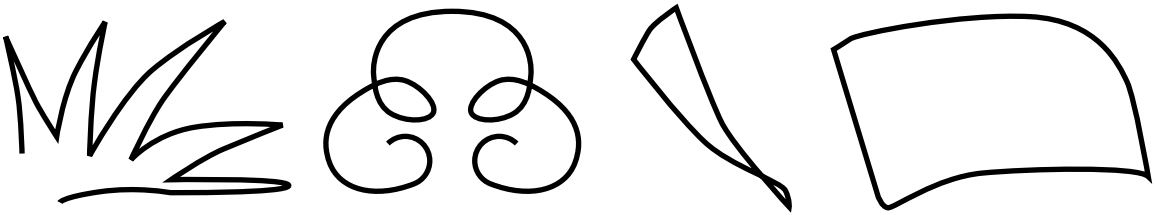
When students have completed their pipe cleaner brand, have students share with the class.

The History & Development of Symbols

(Adapted from Holter Museum of Art – PIR Workshop by Phoebe Toland)

Required homework before doing this activity:

Before doing this activity, ask children to look for examples of symbols in magazines, food containers, newspaper, etc. and ask them to bring them into the class to share. Discuss what makes symbols recognizable and strong. Symbols are usually ***simple***, ***graphically strong*** (bold play between negative and positive spaces), and ***line and shape*** are used in a strong, expressive way. Talk about line and shape and how they can express emotion. A jagged line expresses something very different than a soft curving line and a long skinny shape communicates in a different way than a short round one.



Discuss several example symbols with the class, so they get an idea of what constitutes a strong symbol. Encourage students to create their own symbol and not copy or modify ones they are already familiar with (a cross, heart, football, etc.).

After discussing symbols and showing their homework examples, ask children to make a list of things that they most identify with. This might include:

what they like

how they like to feel

what interests them the most

what connections they make with the world around them

Then ask children to make three lists of three items. They might be:

3 personal traits (happy, silly, serious)

3 favorite animals (dog, cat, bunny)

3 favorite sports or games (basketball, checkers, soccer)

Out of these lists, what 2 things do the students most identify with? Which two best represents the student? Ask students to create their own symbol out of these two things. Have them remember that their shape should be original and express a sense of who they are.

Grades 4-8 Bibliography

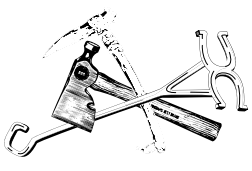
Herbert, Janis. *Lewis and Clark for Kids: Their Journey of Discovery with 21 Activities*. Chicago: Chicago Review Press, 2000.

Karwoski, Gail Lander. *Seaman: The Dog Who Explored the West with Lewis and Clark.* Peachtree Publishers, 1999.

The Big Roundup: Classic and Contemporary Poetry. New West Library, 2001.

MONTANA HISTORICAL SOCIETY

Walter S. Corwin, Montana gold miner. no date.



Teachers Bibliography

Graves, F. Lee. *Montana's Fur Trade Era.* Helena: Far Country Press, 1994.

Dougherty, Michael and Heidi Pfeil-Dougherty. *The Ultimate Montana Atlas and Travel Encyclopedia.* Champions Publishing, 2001.

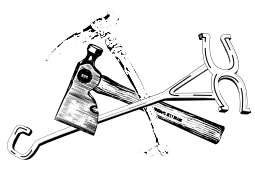
Herbert, Janis. *Lewis and Clark for Kids: Their Journey of Discovery with 21 Activities*. Chicago: Chicago Review Press, 2000.

Robertson, Donald B. *Encyclopedia of Western Railroad History: The Mountain States: Colorado, Idaho, Montana, and Wyoming*. Taylor Publishing, 1992.

Ryan, Miriam Poe. *Riverside*.

Vichorek, Daniel N. *Montana Farm and Ranch Life.* Helena: Far Country Press, 1992.

Virgil, Eugene. *History of the Northern Pacific Railroad.* Ayer Co. Publishing, 1975.



Websites:

https://forestservicemuseum.org/
(National Museum of Forest Service History – located in Missoula)

https://www.fs.usda.gov/ **(U.S. Forest Service)**

https://www.ohwy.com/mt/ **(Montana Towns & Cities – Tourism Info)**

http://www.ohwy.com/mt/d/dalymans.htm **(Daly Mansion Museum)**

https://agr.mt.gov/ **(Montana Dept. of Agriculture)**

https://www.nass.usda.gov/Statistics_by_State/Montana/index.php
(Montana Agricultural Statistics Service)

https://mfbf.org/Montana-Farm-Bureau **(Montana Farm Bureau Federation)**

https://www.mtmemory.org/digital/collection/p16013coll33
(Montana Memory Project - Livestock Brand Registrations for Montana)

https://www.mdt.mt.gov/publications/plans/railroad-info.shtml
(Montana railroad information and links)

https://www.fs.usda.gov/learn/kids (Fun U.S. Forest Service activities for kids)

http://lewisandclarktrail.com/section3/montana.htm **(Lewis & Clark in Montana)**