



Western Work: Industries of Colorado 1850 to Present Pre-Visit Activities

The following activities can help students understand some of the important themes that they will be introduced to during the Western Work program. We recommend doing all four activities before the scheduled visit.

Pre-Visit Activity #1: Introduction to Western Work Industries (45 min)

There are seven Industry Cards that represent some industries that exist and have existed in Colorado. This portion of the Western Work program will be based on information that students discover from these cards. Have the students read the Industry Cards and complete the Industry Facts worksheet. Students can read and take notes on one or more industries.

Objective: Students become familiar with the industries of the Western Work program and pull out important facts from reading.

3rd Grade Colorado Content Standards-History 2c, 2d; Reading 1b, Writing 1d

4th Grade Colorado Content Standards-History 2a, 2b; Reading 1a, 1c, 2a; Writing 1a

Pre-Visit Activity #2: Primary Sources: Photograph Find (15 min)

The *Photograph Find* worksheet guides students in their reading of historical photographs by focusing on people and objects. Students study the historic photo and answer the questions.

Objective: Students learn to use photographs as primary sources of information about a culture.

3rd Grade Colorado Content Standards-History 1b, 2a

4th Grade Colorado Content Standards-History 2d

Pre-Visit Activity #3: Primary Sources: Everyday Artifacts (15 min)

Have each student select an object from around the classroom that they find interesting or frequently use. Each student will fill out the *Everyday Artifacts* worksheet based on the object they chose. After the students complete their worksheets, tell them you are going to talk about artifacts. *Artifacts are defined as objects made by people that are an example of primary resources.* That means an artifact can tell us about the people that made and used it. Have the students think about whether the object they selected is an artifact. Ask the students to help make a list of artifacts from their homes and write the list on the board.

Objective: Students will learn to see artifacts as primary sources of information about a culture.

3rd Grade Colorado Content Standards-History 1b

4th Grade Colorado Content Standards-History 2d



HISTORY *Colorado*

WESTERN WORK

WESTERN WORK

Pre-Visit Activity #4: Timeline: Colorado's Industry (15 min)

Students explore the timelines on the Industry Cards to learn about important events in each industry and the sequence in which they occurred.

Objective: Students learn how to read important elements of a timeline and are able to place the seven industries of the *Western Work* program in time.

3rd Grade Colorado Content Standards–History 2b, 2d

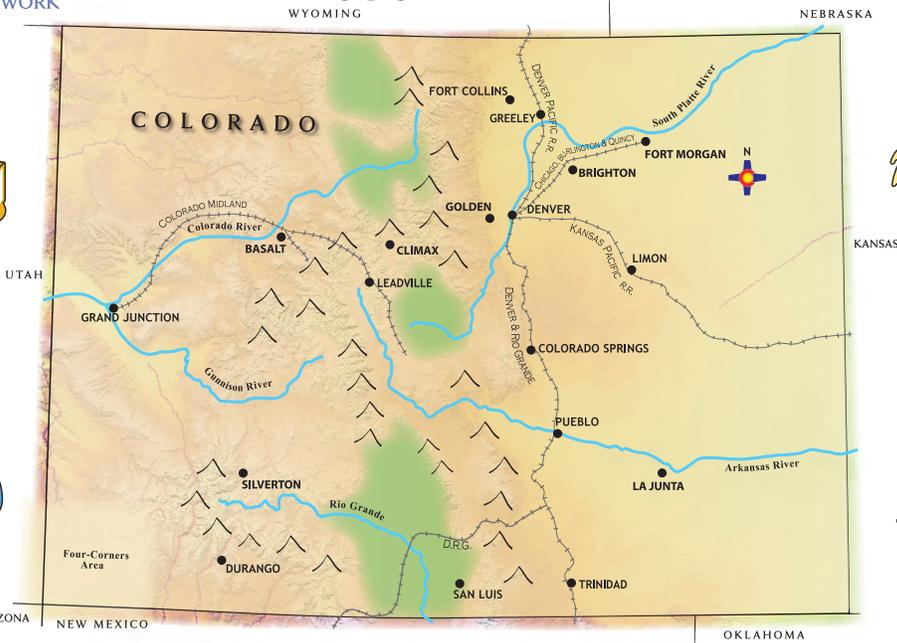
4th Grade Colorado Content Standards–History 1a, 2b



WESTERN WORK



WYOMING



KANSAS



UTAH



ARIZONA NEW MEXICO

OKLAHOMA

HISTORY  Colorado



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Saddles & Spurs Industry

Goods Saddles & Spurs

Before automobiles, people needed a way to travel long distances and carry goods from one place to another. Horses were vital to almost everyone in Colorado, especially ranchers and cowboys. They needed gear like saddles and *spurs* to ride horses. *Harness* and saddle shops were like early car repair and auto part shops! They were an absolute requirement for a western town.

Words to Know

Spurs-Attached to the heel of the boots and used by riders to urge a horse forward.

Harness-Leather straps that are fitted around an animal so that it can be attached to and pull a cart.

Saddletree-The base on which the saddle is built. The tree size determines its fit on the horse's back, as well as the size of the seat for the rider.

Bridles-Piece of equipment used to direct a horse. It includes the headstall that holds a bit that goes into the mouth of a horse, and the reins that are attached to the bit.

Apprentice-Person learning a trade by practical experience under skilled workers.

What Do You Need to Make Saddles & Spurs?

NATURAL RESOURCES

- Horses were the main mode of transportation in Colorado during the 1800s.
- Horses also helped move essential supplies.
- Cattle became an important industry that dominated the style of saddles that were made.
- Cowboys and ranchers needed to be comfortable on long cattle drives, and be able to rope and tow animals.
- The western saddle was based on the *saddletree*, which was made of wood covered in leather.
- *Bridles*, harnesses and other small products were also made by saddle makers.

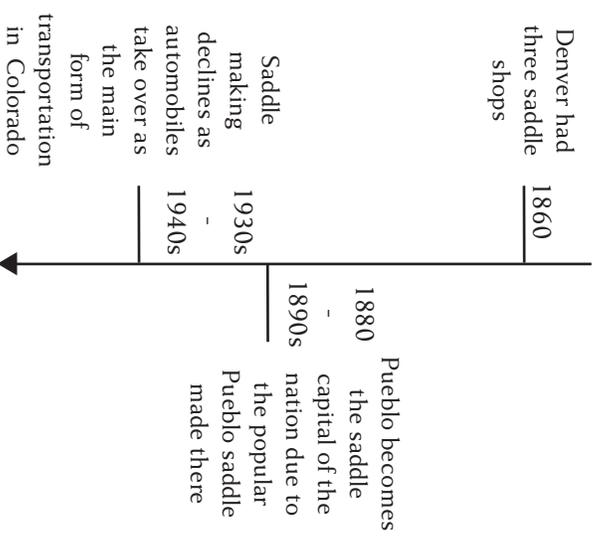
TOOLS AND TRANSPORTATION

- Saddle makers had stores that showcased everything a cowboy or rancher would need for their horse, and even had display horses in the showrooms to demonstrate new products.
- Saddles and parts could also be ordered from catalogues, nicknamed 'cowboy bibles,' and shipped.

LABOR

- Making saddles and spurs was time consuming and highly skilled work because each saddle had a different style depending on the saddle maker and needs of the rider.
- Saddle makers had a strict division of labor, meaning that each worker was responsible for one part of the assembly process.
- *Apprentices* worked under the master saddle maker to learn the craft.

Timeline



Saddles and Spurs Industry NOW

After World War I, the saddle business slowly declined as cars, trains, airplanes, and tractors decreased the demand for horse transportation. Today, most saddles are manufactured outside of the United States. A handful of saddle makers remain in Colorado and custom saddles are still made for customers who don't mind paying a high price.

Sugar Beet Industry



Goods

Sugar & Cattle Food

One of the ways that sugar can be made is from the root of the sugar beet plant (sugar is also made from sugar cane). Beets were grown in fields, harvested, and then processed in factories. The sugar beet pulp was used as cattle food. Because of the sweet taste, cattle couldn't get enough!

Words to Know

Temperate Climate-Places that have hot summers and cold winters.

Cultivation-Working the land by plowing, planting, sowing and harvesting crops.

Irrigation-Bringing in water to a dry place to help crops grow.

Crop Rotation-Planting different crops on the same land to improve the soil and help control insects and diseases.

Migrant Workers-Workers who move from one region of the country to another following the seasons to harvest crops.

Import-To bring goods into the country from another country.

What Do You Need to Make Sugar?

NATURAL RESOURCES

- Sugar beets need land, water and *cultivation* to grow.
- Colorado and many other states in the U.S. provided excellent growing conditions for sugar beets because they have *temperate climates*.

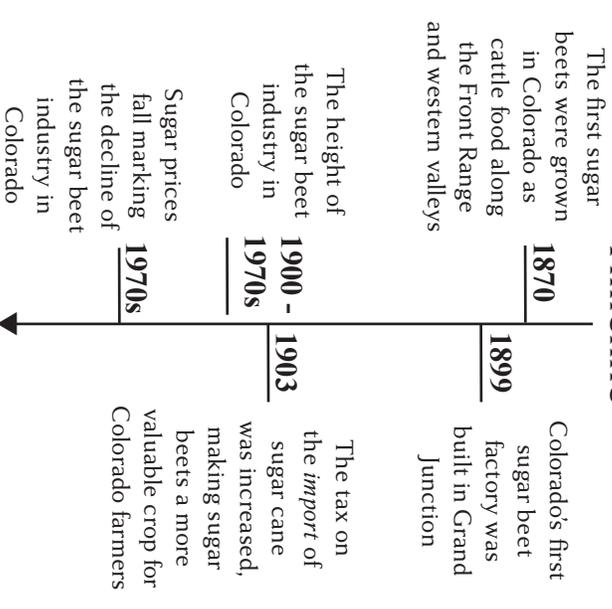
TOOLS AND TRANSPORTATION

- When the beets had grown to their full size, they were harvested.
- Horse-drawn carts, and later trucks, were used to get the beets from the field to the railroad. From there, the beets took a ride to the factory in larger open railcars.
- At the factory, they were washed, sliced, and boiled by machines. Using quicklime and molasses, the beet pulp was then turned into big blocks of hard, solid sugar called 'loaves.'
- Sugar loaves are large cone-shaped versions of sugar cubes. People would use a special tool called a sugar nipper to cut off small pieces from the loaf.
- Beet sugar later came in granulated and powdered forms like we have today.

LABOR

- The beet plants had to be weeded and pulled out of the ground by hand. Growing sugar beets was back-breaking work.
- Small farms often required the whole family, even children to pitch in and help.
- Large farms brought in migrant workers, many of whom came from countries like Mexico, Japan, and Russia, to work during harvesting. Many of these workers stayed in Colorado.

Timeline



Sugar Beet Industry NOW

People's tastes have changed. The demand for beet sugar became very low as people started to use less sugar, and artificial sweeteners were invented. Corn syrup is now used for making many processed foods. Only the Fort Morgan sugar factory remains in Colorado out of the original 20 from the 1900s.

Millinery & Dressmaking Industry



Goods

Hats & Dresses

At first, most of the people that came to Colorado were men. But soon enough, women began to move West and created a demand for hats and dresses. Unlike today, women couldn't walk into a store and buy clothes. Clothes had to be made by hand, and people would own only 2-3 sets. The fashion of the mid-1800s required women to wear long and elaborate dresses, always topped off with a hat! *Millinery* is the name for hat making.

Words to Know

Millinery-Hat making.

Apprentice-A person learning a trade by practical experience under skilled workers.

Ready-to-wear-Dresses that could be purchased at a department store and worn without the need of alterations.

Thimble-A round metal tip that fits on the finger and protects it from needle pokes.

What Do You Need to Make Hats & Dresses?

NATURAL RESOURCES

- Hats and dresses in the 1800s were made from fancy materials like silk, velvet, linen, and wool.
- Hats and dresses were trimmed with feather, ribbon, and lace.
- These materials were often delicate and expensive.
- The more expensive and elaborate the fabric, the more the dress helped identify the social status of the woman wearing it.

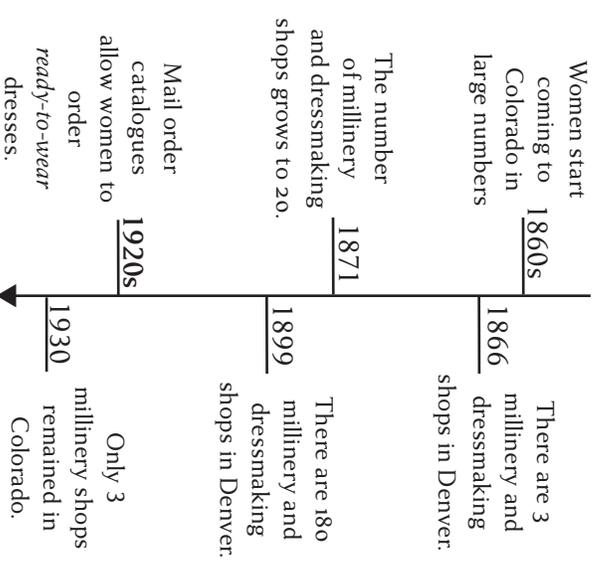
TOOLS AND TRANSPORTATION

- The most important tools for a hat and dressmaker were needles.
- The first needles were made of bone. Later, needles were made of steel, but were often more expensive.
- Dressmakers and milliners used thimbles to protect their fingers from pokes during endless hours of hand stitching.
- Measurements were also very important. Milliners and dressmakers were good at math and used many kinds of rulers to get the job done.
- It was important to get the fit just right in order to make the customer happy. The process required many fittings and the dressmakers and milliners would often become great friends with their clients.

LABOR

- Handmade hats and dresses required a very high level of skill to create.
- Millinery and dressmaking were done almost exclusively by women. This is an example of an industry run by women at a time when women rarely entered the business world and almost never could have made their own money.
- In spite of the difficulties of being a female entrepreneur, many found great success and financial independence. They also taught apprentices all they needed to know to pass on the craft.

Timeline



Millinery & Dressmaking Industry NOW

The demand for *ready-to-wear* dresses changed fashion. Looser-fitting styles also became popular as women needed dresses that were cheaper and easily available. Patterns and more advanced sewing machines made it easier for women to make their own dresses. Eventually, only wealthy women could afford to have their dresses and hats hand made. Today, clothing is made in large-scale factories using high-tech equipment, and big fancy hats are out of fashion.



Mining Industry

Goods

Precious Metals & Coal

The first miners in Colorado came looking for gold to get rich. Later, other precious metals and coal were mined. Many of Colorado's towns and cities started as mining supply towns.

Words to Know

Precious Metals—Gold, silver, and other rare metals that are valuable.

Placer Deposits—Concentrations of valuable ore minerals.

Long Tom—Long and skinny boxes used to separate gold from other dirt and gravel with water.

Mucking—Shoveling up ore or rock that has been broken by blasting into carts.

Hard Rock Mining—Mining that takes place underground and involves blasting large chunks of ore out of the ground.

Molybdenum—A metal used to make rockets, jet engines, auto parts and tools.

Prospector—A person who explores or prospects an area in search of mineral deposits, such as gold.

What Do You Need to Mine?

NATURAL RESOURCES

- The Rocky Mountains were a rich source of minerals and precious metals for mining.
- Veins of gold, silver, coal, and molybdenum ore were found all over Colorado in the mid-1800s.
- While gold was the major draw to the area, other metals like silver were also profitable.
- Coal became important as America became more and more dependant on it for fuel.
- Colorado's many mountain streams and rivers were also a place that prospectors found profitable.

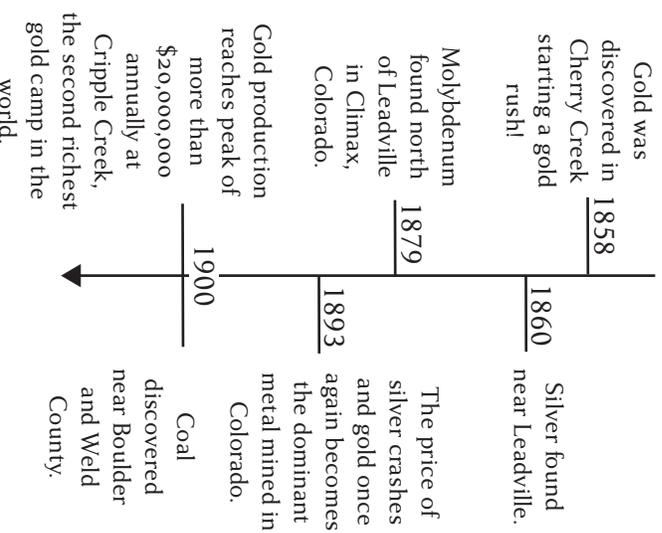
TOOLS AND TRANSPORTATION

- Colorado's first miners, or prospectors, were looking for gold in placer deposits.
- Prospectors scooped gravel and dirt into gold pans and rockers, then used water to wash away everything but the gold. Because gold and silver are heavy ores, they sank to the bottom of the pan.
- Once all the free placer gold had been removed, miners had to dig deep into the earth to get at the valuable metals.
- Hard rock miners used hammers and drill bits to punch holes into the wall of a mine.
- Then they put explosives into the holes to break off large chunks of rock.
- Muckers then shoveled up the loose rock and ore into carts that were taken to mills to be crushed and stamped.
- The crushed rock was then separated from the precious metals.

LABOR

- Placer miners spent all day crouched over rivers and streams.
- Hard rock miners spent long days drilling, mucking, and blasting in wet and dark mines.
- The work was very dangerous and the miners needed to be very careful to do their job right!
- Mules were used to haul ore carts. Many mules spent their whole lives in the mine and were treated like pets by the miners.

Timeline



Mining Industry NOW

Most prospectors in Colorado did not strike it rich, and many returned home. Others stayed and became merchants in the mining supply towns. Colorado is littered with ghost towns and remains of old mines. Coal, gold, gypsum, limestone, silver, molybdenum, soda ash and sodium bicarbonate are still mined in Colorado today.

Ice Industry



Services

Cold Storage & Ice Delivery

Before electric refrigerators that we use today, people needed a way to keep their food from spoiling. They had ice delivered to their home to use in an ice box. Many businesses needed cold storage for their goods. Breweries became the biggest consumer of ice because they needed to cool their beer. Dairies, farms, and butchers also needed ice to transport and preserve their perishable foods.

Words to Know

Ice Box-A large wooden box used for storing perishable food.

Icehouse-Building used to store ice often located by a lake or a railroad line.

Insulation-Material used to prevent things from melting.

Ice Card-Small card hung in the window and used to tell the ice delivery man how much ice to deliver.

What Do You Need to Make Ice?

NATURAL RESOURCES

- Natural ice was cut from frozen lakes in big blocks during the winter months.
- Cold winters allowed for ice to be harvested in the winter and then stored.
- Once the hot weather of the summer came, people needed cold refreshment and a way to keep their food from spoiling.
- The Rocky Mountains provided plenty of nearby lakes from which to harvest ice.

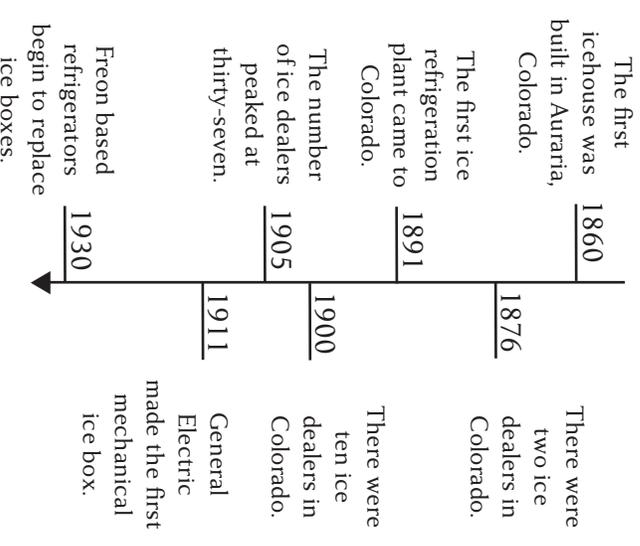
TOOLS AND TRANSPORTATION

- Although the ice itself was free and abundant, it required special tools to harvest.
- Plows were used to scrape the loose snow and dirt from the top of the ice.
- Grooves were cut by iron ice saws.
- Bars and picks were used to wedge the blocks apart.
- Once the large blocks of ice were free from the lake, they were transported to an icehouse for storage by either wagon or railcar.
- Often, the icehouse was nearby on the lake so they just floated the blocks over.
- Icehouses were lined with straw or hay for insulation.

LABOR

- The blocks of ice cut by the workers were big and heavy.
- Horses helped do much of the work, including pulling the plows, scrapers, and cutters across the ice. The horses wore special studded horseshoes so they wouldn't slip.
- Ice delivery men brought ice to people's homes and businesses.
- Customers put an ice card in the window to let them know how much ice they needed. Delivery men measured the ice by weight and used big iron tongs with a handle to carry it.

Timeline



Ice Industry NOW

Some people still cut natural ice from lakes today, but only as a hobby. Natural ice harvesting is no longer a profitable business. Modern refrigeration greatly lowered the demand for natural ice. Some pre-made ice is still needed and companies like Reddy Ice in Colorado still make it.

Flour Mill Industry



Goods - Flour

Service - Milling

Flour was a basic need for early settlers in Colorado. Most people weren't farming and growing their own food, and they needed flour to make bread. But flour was hard to get because it had to be brought in from the East. People soon figured out that they could make a lot of money by building flour mills in Colorado, close to the growing communities that needed it.

Words to Know

Irrigation-Bringing in water to a dry place to help the crops grow.

Millstones-Large stones used for grinding wheat or other grains.

Hungarian Flour-Made from rollers instead of millstones. It became the most desired type of flour and is still popular today.

Staple Food-A main food eaten by a large proportion of the country's population.

What Do You Need to Make Flour?

NATURAL RESOURCES

- Flour is made from wheat.
- Farmers need land, water, and seeds to grow wheat.
- In the 1800s, Colorado had a large amount of open land that was good for farming.
- With the help of *irrigation*, wheat crops grew well.
- There are also many rivers and streams that could be used to power the grinding wheels in a flour mill.

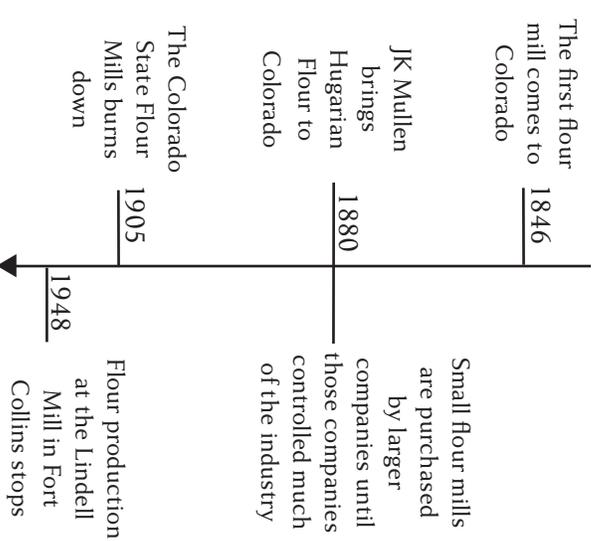
TOOLS AND TRANSPORTATION

- After the wheat was harvested, farmers brought it to the mill by horse-drawn buggy and later trucks.
- The wheat was dumped into a big hopper, or bin, at the top of the mill.
- As the wheat fell, it was cleansed using screens and air blowers, and ground between two large millstones into fine powder.
- The wheat it was sifted through bolts of cloth and later, silk because of its small weave.
- The super-fine flour was actually dangerous to a flour mill because if it was allowed to collect, it could easily catch fire.

LABOR

- Most of the work in flour mills is done by machines, but human workers were very important too.
- Workers needed to be skilled in how to operate and maintain the machines, as well as keeping the mill as clean as possible.
- *Millstones* used water power to turn and many flour mills were built near rivers and streams.
- As the water pushed the wheel, the gears moved and turned the stones.

Timeline



Flour Mill Industry NOW

Flour remains a staple food in Colorado. People eat bread products everyday! Now, most flour mills are computerized, but the basic way the wheat is processed remains much the same. Many mills today are called 'lights out,' because they can continue to run without people being there. Tastes are changing, too. While in the past, the whitest and finest flour was most desired, now people like whole wheat, a less processed form.

Pre-Visit Activity #2 Worksheet

Photograph Find

Name: _____



Look at the people in the photograph.

1) What is one item of clothing the person or people are wearing?

2) How is this item the same as what people wear today? How is it different?

3) What do you think the people are doing in this photograph?

Look at the objects in the photograph.

1) What object seems interesting to you and why?

2) How do you think the object was used?

3) Who would use it?

Pre-Visit Activity #3 Worksheet

Everyday Artifacts



WESTERN WORK

Name: _____

1. What is it made of? _____
2. Where did it come from? _____
3. What is it used for? _____
4. Why did you pick this object? _____

5. What do you think this object could tell people in the future about you? _____

6. Will this object still be used 50 years from now? If not, what will be used instead? _____

Draw a picture of your object.

A large, empty rectangular box with a black border, intended for drawing a picture of the object chosen for the activity.

Pre-Visit Activity #3 Worksheet

Colorado Timeline

Name: _____

Timelines show important events and the year that they happened. Timelines can be used to understand more about history. Below is a timeline of Colorado's industries. Read the facts and answer the questions at the bottom.



1846	The first flour mill comes to Colorado.
1858	Gold was discovered in Cherry Creek, starting a gold rush.
1866	There are three millinery and dressmaking shops in Denver.
1880-1890s	Pueblo becomes the saddle capitol due to the popular Pueblo saddle that was made there.
1893	Gold was discovered in Cripple Creek starting gold rush.
1899	There are 180 millinery and dressmaking shops in Denver.
1899	Colorado's first sugar beet factory was built in Grand Junction.
1920s	Mail order catalogs allowed women to order ready-to-wear dresses.
1930	Freon-based refrigerators began to replace ice boxes.
1930s-1940s	Saddle making declines as automobiles become the main transportation in Colorado.
1970s	Sugar beet prices fall marking the decline of the sugarbeet industry in Colorado.

1. Tons of people are coming to Colorado to get rich. What year is it? _____
2. What makes Pueblo a popular place from the 1880s to the 1890s? _____
3. In the year, _____ sugar beets are made into sugar in a factory.
4. In the 1930s and 1940s saddle making declines because of what? _____
5. Which year has the most millinery and dressmaking shops in Colorado? _____
6. In 1911 you can finally store your ice in a mechanical icebox thanks to General Electric. What year are these iceboxes replaced? _____
7. What year does the sugar beet industry decline in Colorado? _____
8. Woman no longer need to go to dressmakers because they can order clothing. What year is it?

9. If your fortune is in silver, which year is very bad for you?
