



NEW MEXICO HISTORIC SITES

Teacher's Guide

Created by Tiffanie Owen, Instructional Coordinator

“From Horse to Iron Horse”

Time to saddle up and use your horse sense.

This Teacher's Guide will lead you chronologically through the parts of this lesson plan. Implementation in the classroom is up to the discretion of the teacher based on class-size, availability of materials and time constraints.

Preparation:

Part I

- copies of the lesson plan background information (unless you will be reading this to the students aloud)

Part II

- copies of the 2-Set Venn Diagram worksheet for all students
- access to audio-visual equipment/screen and internet to view Venn Diagram video (if desired)

Part III

- 1 lg. piece of butcher paper for each group
- permanent marker/s for each group
- if students will not have access to computers or printers, you may want to have old magazines or printed copies of the
- copies of the 3-Set Venn Diagram Rubric for all students

I

Part I - Learn:

1. Read or distribute copies of the background information (provided in the lesson plan) to the class.
2. Ask students to imagine the west before settlement. As a class, discuss the challenges of moving people and supplies over an undeveloped landscape.

II

Part II: Practice

1. Instruct students in the basics of creating a 2-Set Venn Diagram. Demonstrate how a Venn Diagram allows for comparison of subjects and their attributes. A short video on constructing a Venn Diagram is available at www.youtube.com/watch?v=1GB3ivbichw.
2. Distribute the 2-Set Venn Diagram Worksheet for students to practice comparing the Native American mode of transportation (the horse) to automobiles used primarily for transportation today.
3. As a class, discuss and work through the 2-Set Venn Diagram to make sure that students understand the concept.

Materials Needed:

- 1 lg. piece of butcher paper per group
- markers for each group to create Venn Diagrams
- magazines or printed clip art of Old West transportation

Helpful Resources:

“How Do We Visualize Regions in a 3-Set Venn Diagram” by Don't Memorize

www.youtube.com/watch?v=TeV5UP7dWdc

Transportation in the American West
www2.palomar.edu/users/scrouthamel/ams105/Transport.htm

Part III: Execute

Now that students have used their worksheet to understand a 2-Set Venn Diagram, they will work in groups to construct a 3-Set Venn Diagram comparing the attributes of 3 different modes of Old West transportation.

1. Explain the group activity to students. Demonstrate for the class a simple 3-Set Venn Diagram, or you may use the YouTube video, “How Do We Visualize Regions in a 3-Set Venn Diagram?” www.youtube.com/watch?v=TeV5UP7dWdc
2. Divide the class into groups (divisible by three) so that each student/s is responsible for 1/3 of the research to be contributed to the diagram.
3. Distribute copies of the rubric to each student. Explain each section so that they will understand how they will be individually graded for their contributions to the group activity.
4. Explain to the class that each group will select and research 3 forms of Old West transportation to compare and contrast.
The transportation options are:
 - travel on foot
 - horseback
 - caretta
 - covered wagon
 - travois
 - stagecoach
 - train
5. Within each group, one or more students will be responsible for researching one of the three selected modes of transportation. Each student should submit at least 3 attributes and one illustration for his/her chosen mode of transportation. **Remind students that they will be submitting their individual research notes, so they should be neatly written and organized.**
6. Distribute a piece of butcher paper and markers to each group. (You may want to suggest that they work out their Venn Diagram using pencil before finalizing it in permanent marker.)
7. Groups should begin by drawing their 3 circles.
8. In the negative space around the circles, students should boldly write their three chosen forms of transportation. (Remind students to spread their choices out because they will be listing the attributes of each mode of transportation underneath the boldly written “header”.
9. Under each header, ask students to list the ways in which each mode of transportation is similar or different.
10. Instruct students to make their Venn Diagram “presentation ready” by adding an illustration to match each mode of transportation that was used in the comparison.
11. Students will then place the comparisons in the correct section of the 3-Set Venn Diagram.
12. Each student should write their name with their list of transportation attributes as well as next to the illustration that they contributed to the Venn Diagram.
13. Students will present and defend their diagram to the class, with each student explaining the mode of transportation for which they were responsible.

IV Part IV – Assessment

A rubric has been provided to assist in assessment of this assignment. (Each student should have been given a rubric prior to the group activity to make sure that they understand how they will be individually graded. As part of the assessment, they will also grade themselves on participation and contributions to the project.)

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From Horse to Iron Horse ~ Transportation in the Settlement of the West

Lincoln & Fort Stanton Historic Sites

Tiffanie Owen, Instructional Coordinator

Essential Question: What modes of transportation did Native American, Hispanic and Anglo Americans use to move people and supplies to places like Lincoln County in New Mexico territory during the settlement of the West?

Overview: As human beings settled into the western half of North America, various cultures used different means of transportation to move people and supplies. In the east, travel by riverways, lakes and along the coast had made it easier to move people and goods at a more rapid pace. In the west, however, where water was scarce, overland travel was extremely difficult. Indigenous people, as well as Hispanic, Black and Anglo settlers had to use other means to move themselves and their belongings. The 1800s saw an especially rapid progression in transportation technology, from horses to wagons, stagecoaches and trains. In this lesson, students will learn how the evolution of transportation made travel safer and more accessible, which facilitated the opportunity to expand the nation to the west, long before the invention of the automobile.



Sheriff John Owen and family in front of the "Sheriff's House in Lincoln, NM.
Photo courtesy of Tiffanie Owen

NEW MEXICO HISTORIC SITES

Learning Objectives:

1. Describe different modes of transportation used by different cultures during the settlement of the western half of North America.
2. Explain the spiritual, cultural and economic significance of the horse to Native American plains tribes such as the Comanche and Apache.
3. Use a Venn Diagram to analyze and classify the similarities and differences of various modes of transportation used in the west.

Background:

The upheaval and violence that made Lincoln County, New Mexico famous, are consistent with many tumultuous stories of expansion into the American West. Over several centuries, the lifestyles, cultures, ecology and economy of the west saw many changes, but possibly nothing changed the western way of life more dramatically than the arrival and invention of ever-evolving means of transportation

For much of North America's history, the movement of human beings and cargo over any significant distance required the availability of water. Since much of the west lacked this resource, the most obvious and accessible mode of transportation for human beings living here was to walk or run. Naturally, a person's ability to move from place to place, as well as feed himself and his family, would depend upon his age, the environment in which he lived and even the weather. Consequently, most people rarely moved more than a few miles from the place where they were born.

The earliest inhabitants of the southwest, the ancestors of the Native American tribes we know today, were primarily sedentary, living in caves, pit houses, or structures made of tree branches and brush. Some cultures eventually built large pueblos where thousands of people would live and congregate together. In the Bonito Valley, where Lincoln and Fort Stanton Historic Sites are located, the remains of many of these pueblos can still be found today, as well as the pottery, sacred sites, and the tools the ancient people used.

Later, new groups of people arrived and began to move south across the North American continent. Many of them settled in what is now the western and southwestern United States. Most continued to live sedentary lives as humans had for thousands of years. When they needed to move supplies or the sick, or elderly, they often used dogs rigged up with a sled called a travois.

When the Spanish came to the area in search of riches and resources, however, they encountered the Native people and reintroduced them to the horse. The Native American tribes quickly adopted and mastered these magnificent animals and the world was never the same.

The plains tribes were now able to move faster over vast territories, creating more opportunities for trade. They could now hunt animals, such as buffalo, on horseback. They could use their horses for warfare with other tribes and with settlers.

The area known today as Lincoln County was once the territory of two plains tribes, the Comanche and the Mescalero Apache. The arrival of newcomers would lead to decades of warfare and violence in the southwest between Native tribes, the Mexicans and the Americans. If not for their skill on horseback, however, the Native people would most likely have been quickly and easily defeated.

Because horses so significantly changed their way of life, Native American people considered the arrival of the horse a gift from "The Great Spirit." Because of this belief, horses took on spiritual, cultural, and economic significance. Native people believed their horses represented "healing medicine," which refers to a spiritual healing in Native American culture.

Ownership of a horse or horses was often a status symbol within the tribe. A chief or a warrior's wealth was often measured in the number of horses that he owned. Additionally, a young man asking a young woman's father for her hand in marriage, would bring horses as an offering to the young woman's family.

Horses also had a lead role in Native American competitions and games. Racing, rodeos, and games such as Hoop and Staff, Foot and Horse Race, and Horse and Hide, were popular amongst all the plains tribes. The games were not only important for recreation and bonding, but were intended to teach children riding skills from a very young age.

Other southwest people used horses, as well as other beasts of burden to move about the west. The Mexican people used carts known as carretas that were pulled by oxen. These animals moved goods and supplies up and down the Camino Real, or the Royal Road, between Mexico City and what is now northern New Mexico. Although strong, travel was slow and a broken wheel, a hurt animal or muddy roads could stop travel completely.

An iconic symbol of transportation in the Old West was the stagecoach. A stagecoach was a variation of wheeled-coaches that had been used in the eastern U.S. since the 1700s. Stagecoaches began to appear in the west in the 1820s and were typically pulled by horses or mules. They were considered a more elegant form of transportation. Although they traveled at greater speeds than a caretta, the stagecoach could carry only a few passengers in a seated position and just a small load. The ride was bumpy, the vehicle was top-heavy and prone to roll-overs, and the ability to transport money and mail at greater speed made stagecoaches vulnerable to robbers and outlaws.

As safety on the frontier improved, and more trails opened land to the west for settlement, families began to move west with their entire household, children and livestock. For this purpose, the Conestoga or covered wagon, was a better option. Primarily pulled by horses, mules or oxen, amenities included a rain-proof tarp, a more stable design to prevent tipping over, out-turned wheels and a steerable front axle. Because of the design, these wagons were somewhat defensible which gave families a place to sleep at night and feel a bit more safe from attack. Often, these "prairie schooners" traveled together in "wagon trains" and at night, they could "circle the wagons" to create a make-shift fortress for safety in numbers. Despite being able to carry a heavy load, most members of the family (except the father who drove the wagon), walked alongside the wagon for the long journey, which reduced the burden on the animals and made them more likely to survive the trip.

A technological leap in speed and comfort that was comparable to the rapid shift from walking to riding horses, was the building of the railroad. Since people were familiar with horses, but had never seen trains before, the railroad companies marketed train travel as riding an "iron horse." Many people were afraid of trains since they were noisy, emitted smoke and traveled at a dizzying speed of 20-30 miles an hour! (People were much more accustomed to a steady pace of 3 miles per hour over land, or 8 miles per hour in a horse-drawn coach.)

On a train, a trip from St. Louis to California, which would take months for a family in a wagon, could be completed in a comfortable 10 days. Eastern locomotives operated on coal, but locomotives in the west used the more abundant timber to power steam engines.

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The arrival of railroad tracks and trains on the frontier divided the buffalo herds, changed the ecology, the economy of the land. Advances in transportation technology accelerated westward expansion, bringing more and more settlers to the west, altering American life forever.

Bibliography:

“American West, The 1865-1900.” *Library of Congress*, www.loc.gov/classroom-materials/united-states-history-primary-source-timeline/rise-of-industrial-america-1876-1900/overview. Accessed 3 Sept. 2020.

“American West-Transportation.” *palomar.edu*, Palomar Community College District, www.palomar.edu/users/scouthamel/ams105/transport.htm. Accessed 3 Aug, 2020.

“Hoofs and Wheels-Transportation in the West.” *nationalcowboymuseum.org*. National Cowboy and Western Heritage Museum, www.nationalcowboymuseum.org/explore/hoofs-wheels-transportation-west. Accessed 11 Aug. 2020.

“Iron Horses: The New American Railroad.” *The J. Paul Getty Museum*. Getty Conservation Research Foundation Museum. www.getty.edu/kids_families/do_at_home/artscoops/iron_horses.html. Accessed 3 Sept. 2020.

Hoven, Leigh. “Native Americans and Horses.” *Thematic Unit NATIVE AMERICANS*, Thematic Unit #285 *Teacher Created Materials, Inc.*, 1990, pp. 23, 30.

“Horse Culture.” *International Traditional Games Society*. Wolfstar Productions. Traditionalnativegames.org/horse-culture. Accessed 3 Sept. 2020.

“Transportation in America Before 1876.” *americanhistory.si.edu*. National Museum of American History-Behring Center, www.americanhistory.si.edu/america-on-the-move/transportation-1876. Accessed 11 Aug. 2020.

Additional Resources for Interested Students:

“Dances with Wolves - the buffalo hunt scene HD” YouTube, uploaded by Movie Remixer, 10 Apr, 2016, www.youtube.com/watch?v=h9kQtd4_WcU .

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“Effects of Transportation on the Economy.”

Nationalgeographic.org.www.nationalgeographic.org/article/effect-transportation-economy/

“Transcontinental

Railroad.” *historynet.com*, HistoryNet, www.historynet.com/transcontinental-railroad

“Transportation in the Old West” YouTube, uploaded by Arizona Ghostriders, 26 Nov, 2016,www.youtube.com/watch?v=ChZL02+hwqM

Activity Introduction:

2 Set Venn Diagram - Comparing Native American Horse to Modern Automobile
(Teacher Key Included)

3 Set Venn Diagram Group Activity – Comparing 3 types of Old West Transportation
(Rubric Included)

Social Studies Standards Grades 5-8

<https://webnew.ped.state.nm.us/bureaus/instructional-materials/new-mexico-content-standards/>

Social Studies

Content Standard I: Students are able to identify important people and events in order to analyze significant patterns, relationships, themes, ideas, beliefs, and turning points in New Mexico, United States, and world history in order to understand the complexity of the human experience.

5-8 Benchmark 1-A. New Mexico: explore and explain how people and events have influenced the development of New Mexico up to the present day.

5. explain how New Mexicans have adapted to their physical environments to meet their needs over time (e.g., living in the desert, control over water resources, pueblo structure, highway system, use of natural resources)

6. explain the impact of New Mexico on the development of the American west up to the present, to include: availability of land (e.g., individual, government, railroad, tribal, etc.); government land grants/treaties; transportation (e.g., wagons, railroads, automobile); identification and use of natural and human resources; population growth and economic patterns; and cultural interactions among indigenous and arriving populations and the resulting changes.

From Horse to Iron Horse

Transportation in the Settlement of the West

The upheaval and violence that made Lincoln County, New Mexico famous, are consistent with many tumultuous stories of expansion into the American West. Over several centuries, the lifestyles, cultures, ecology and economy of the west saw many changes, but possibly nothing changed the western way of life more dramatically than the arrival and invention of ever-evolving means of transportation

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Sheriff John Owen and family in front of the "Sheriff's House" in Lincoln, NM. Courtesy of Tiffanie Owen.



Write the phrases below in the appropriate segment of the Venn Diagram to demonstrate the traits that are similar and those that are different.

Name _____

Class _____

used primarily on paved roads
status symbol
represents "healing medicine"
used as transportation
requires a license

machine
a gift from "The Great Spirit"
requires fuel & water
moves food & items from one place to another
a bridegroom's offering to the family of his future bride

seatbelts required
used for racing
mammal
allows fast movement
over great distances

Native American Horse

Your Family Automobile



Students should write phrases that refer only to Native American Horses in the circle on the left. Phrases that refer only to automobiles should be written in the circle on the right. Phrases that refer to both horses and automobiles should be written where the two circles overlap.

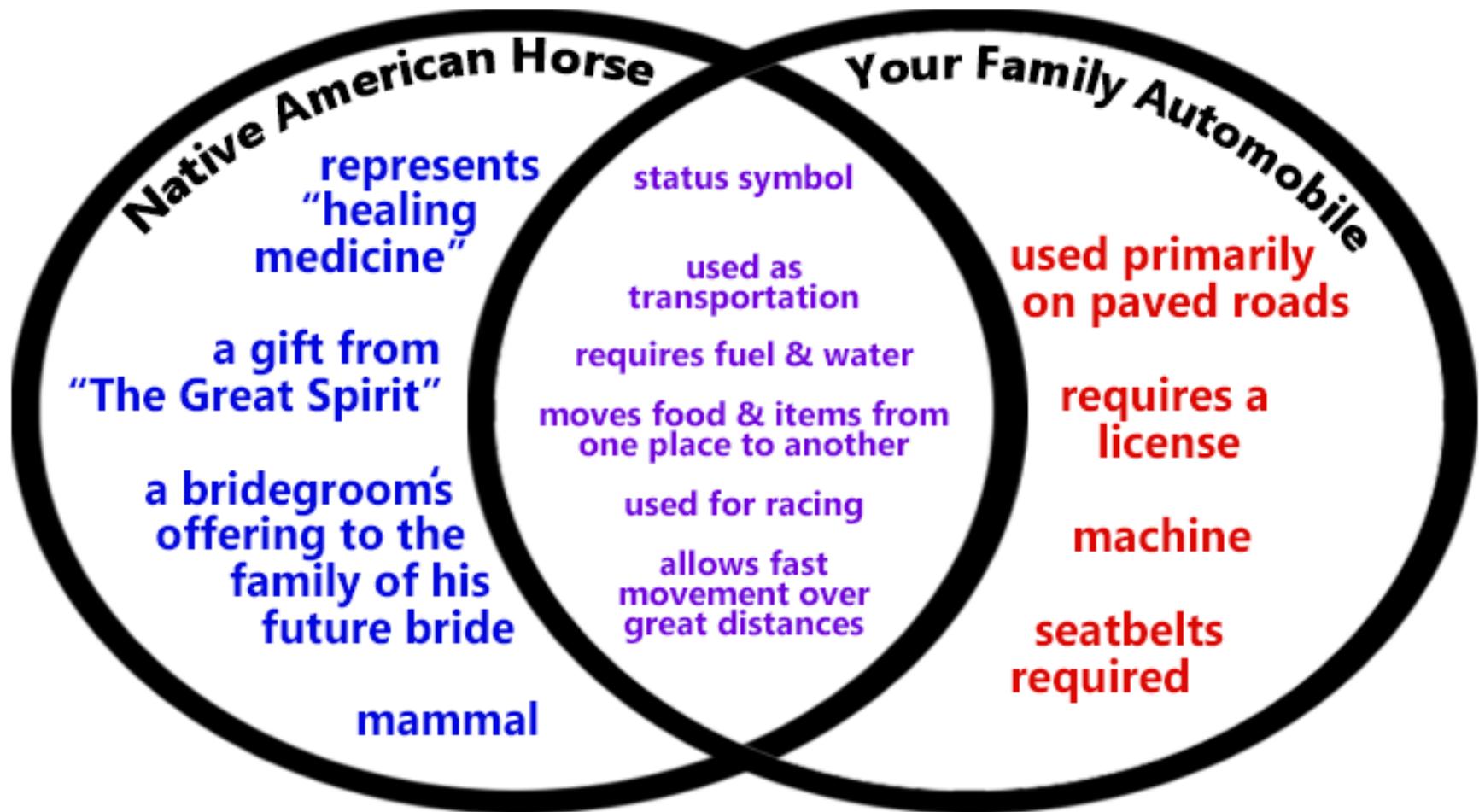
Name Teacher's Answer Key

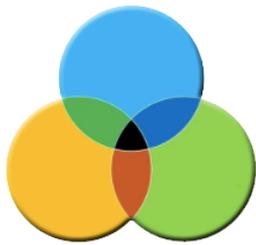
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Survivor Southwest-

3 Set Venn Diagram Group Activity

This rubric will score the individual student's contributions to the 3 Set Venn Diagram activity. Your final grade will combine your teacher's assessment and your personal assessment.

	10 pts	6 pts	4pts	0 pts	Score
Research Notes	Student submitted research notes for his/her part of the project that were thorough, neatly written and well organized.	Research notes were thorough, but not neatly organized.	Notes demonstrate minimal research.	Research notes were not submitted.	
3 Set Venn Diagram	Student contributed at least 3 items to his/her topic set. The three items are listed in the margin as well as inside the diagram.	Students 3 items are written in the diagram, but not listed in the margin.	Student contributed less than 3 items.	Student did not contribute researched items for the diagram.	
Illustrations	Student contributed an illustration relevant to the topic, appropriately located on the diagram and neat.	Illustration is present but messy or not appropriately located.	Illustration is present but is not relevant to the topic.	The student's illustration is missing.	
Presentation & Defense of Venn Diagram	Student is present, engaged and able to defend his/her reasons for placing items in appropriate places on the diagram.	Student is present and engaged, but has difficulty defending placement of items in the diagram.	Student is present but does not participate in the presentation.	Student is not present for the classroom presentation and discussion.	
Participation	Student participated throughout project and submitted required content.	Student participated most days, but not all or was absent on a group workday.	Student was present but did not participate, or was absent more than present.	Student did not participate in group work or submit required content.	

Based on the above standards, write a score for yourself in each category in the margin to the right of the table. Then tabulate the grade that you believe you earned for this project. Write that number here: _____