Albuquerque Tricentennial

Seventh Grade
Teachers Resource Guide

September 2005

I certify to the king, our lord, and to the most excellent señor viceroy: That I founded a villa on the banks and in the valley of the Rio del Norte in a good place as regards land, water, pasture, and firewood. I gave it as patron saint the glorious apostle of the Indies, San Francisco Xavier, and called and named it the villa of Alburquerque. -- Don Francisco Cuervo y Valdes, April 23, 1706

Resource Guide is available from www.albuquerque300.org

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My City of Mountains, River and Volcanoes

Albuquerque Geology

In the dawn of geologic history, about 150 million years ago, violent forces wrenched the earth's unstable crust. In some places heat melted underlying rock, which burst to the surface as volcanoes. In other places, mountains rose, but thousands of years of erosion by wind, rain and snow would wear them down.

Sandia Mountains

Here, in Precambrian time, the underlying rock didn't break to the surface but instead cooled and solidified to form granite. Later, stresses moved and lifted the granite up, breaking it into blocks. This formed the core of the Sandia Mountains.

About 300 million years ago, great inland seas began to cover the area and then retreat. The waters carried suspended sediments as well as marine life. When they retreated, they left behind layers of limestone, sandstone and shale, which capped the Precambrian rock. This is why you can see marine fossils in the limestone caprock of the Sandias. At times exposed land would be subject again to erosion before dropping again beneath the water, which then continued to add deposits. This process went on for hundreds of millions of years.

Around 70 million years ago, in the late Cretaceous Period, there was an upheaval of the earth's crust, which pushed up the Rocky Mountains, including the Sangre de Cristos, which are the southernmost extension of the Rockies.

About seven to ten million years ago, heat and compression broke the earth's shell, causing a crack, or fault. On one side of the fault, the earth rose sharply, creating a sheer bluff that faced west. This exposed layers of rock deposited in previous ages, along with the Precambrian granite. (Imagine breaking a birthday cake in half, and tilting one side up to reveal the layers.) Geologists estimate that the total vertical rise of the fault is about five miles. The same rocks we see on top of Sandia Crest are also miles below the surface.

Erosion began wearing away the layers and rock, creating the Sandias and the Manzanos as we know them. The Sandias and Manzanos are not part of the Rocky Mountains because they formed much later and by a different process.

Today the Sandias have two distinct peaks – North Sandia Peak, 10,678 feet, and South Sandia Peak, 9,782 feet. In between is a saddle known as Sandia Crest. The knobs, columns and pinnacles you can see on the western side were created by erosion, which also created canyons. Runoff from these canyons feeds arroyos that have cut through the East Mesa.

The Sandias are about 20 miles long and end in the south at Tijeras Canyon. "Tijeras" means "scissors" in Spanish. Here, various companies have made cement from the limestone, dolomite, shale and gypsum since 1957.

How did the Sandia Mountains get their name? The usual story is that early Spanish settlers named the mountains "sandia," for "watermelon." However, the range actually got its name from Sandia Pueblo, according to historian Joseph Sanchez. As early as 1611 Spanish frontiersmen and missionaries referred to it as "La Sierra de Sandia," or Sandia's mountain.

Rio Grande Rift

As granite blocks rose to create the Sandias, the land west of the fault dropped, leaving a depression called a rift. Similar movements created a string of depressions from southern Colorado to northern Mexico called the Rio Grande Rift. In the Albuquerque area, the Rio Grande Rift Valley is about 30 miles wide, with one fault at the base of the Sandia Mountains and the other fault to the west near the Rio Puerco. It's one of the few young continental rift valleys on the planet. A rift is a place in the Earth's crust, where the crust is thinning and pulling apart.

This rising and falling took place slowly, and continues to this day. The Sandias and Manzanos continue to rise, and the valley continues to drop.

Albuquerque's Aquifer

Over time the rift filled with sand, gravel, silt, clay and rocks carried by water, gravity and wind from nearby mountains. This porous material reached 10,000 feet deep, and it has collected water for thousands of years. That means that when you drink Albuquerque water, you're drinking water that may be thousands of years old.

The City of Albuquerque has relied on this store of water, called an aquifer, for over a century. For some time the city has been pumping this groundwater from the aquifer faster than it can be recharged through precipitation. This is called "mining" the water. For that reason, the City is building facilities to use the Rio Grande for drinking water.

Rio Grande

During the Ice Age, sheets of ice extended south from the North Pole. They didn't reach this area, but mountain glaciers formed in the high mountains. As the climate warmed, these glaciers moved and melted, expanding valleys and carving channels for rivers as they progressed.

High in the Colorado Rockies, melting glaciers fed a powerful stream, which pushed south toward the sea, carrying rock and earth with it. At present-day Albuquerque the river filled in the Rio Grande Rift with sediment and then began to erode the river bed it had just created, carrying debris downstream. The river's cycle of deposits and erosion has continued now for thousands of years and is still in progress.

Until recent years, the river meandered over a wide floodplain, depositing silt. As the riverbed rose, the Rio Grande would break out of its channel and take a new path.

Pueblo people learned to live with the meandering river, but as Spanish settlers established farms along the river after 1598, flooding became a problem. In addition, the river created mud flats, marshes and ponds, and quicksand was a danger when crossing the river in certain places. But anyone wanting water had only to dig a few feet.

The untamed Rio Grande vexed the city until organized efforts at flood control began in 1925 with the creation of the Rio Grande Conservancy District. In time a

network of dams, drains and diversion channels confined the Rio Grande and stopped its meandering. Drought and increasing use of wells lowered the water table and eliminated the swamps.

Volcanoes

About 150,000 years ago – just yesterday in geologic time – a north-south fracture opened west (in the middle of the rift) and nearly parallel with the river. Lava exploded from multiple places along the faults because the Earth's crust was thinner and the magma was closer to the surface. At six of these places, lava and ash would form volcanic cones. From these, lava bubbled and spread towards the river, hardening into a cap of basalt.

Within the last 100,000 years, the softer alluvial soils began to erode from underneath the basalt, and the layer of basalt tumbled down in boulders along an edge, or escarpment.

Today we can see five volcanic cones. They are, from south to north, the J A, Black, Vulcan, Bond and Butte. J A probably stands for John Adams School, whose students first painted letters on the volcano. Later students from St. Joseph's College continued painting a solitary J on Vulcan. Black and Bond are named for the Black family and Frank Bond, who owned land nearby. A sixth volcano disappeared because it was mined for scoria, small pieces of reddish lava rock. (The other type of volcanic rock is basalt, which is black.)

Resources:

www.aps.edu/aps/wilson/AlbuquerqueGeology/

www.NMnaturalhistory.org

Albuquerque's Environmental Story: http://www.cabq.gov/aes/

Bauer, Paul and others. Albuquerque: A guide to its Geology and Culture.

Friends of the Rio Grande Nature Center. The Bosque Education Guide.

Julyan, Robert and Stuever, Mary. Field Guide to the Sandia Mountains.

Simmons, Marc. Albuquerque: A Narrative History.

Lesson Plan: Albuquerque Geology

by Randy Pence, Jimmy Carter Middle School

Objective: The student will learn about the physical geology of what is now Albuquerque through various types of activities.

New Mexico Standards: Strand II Understand the Structure of Earth, (Science) 5-8 Benchmark II, Describe the Structure of Earth

Time Frame: Five school days

Materials Needed:

- Examples of the various types of rock found in the Albuquerque area, labeled by type and location found
- Examples of fossils that can be found in the immediate Albuquerque area.
  Modeling clay of various colors
  Construction paper, crayons, markers, paint

Background

Review the Teachers Resource Guide history background as well as this information: How does the lesson relate Albuquerque's history to today?

Albuquerque's geology determines the location of where things can be built. Albuquerque's geology dictates how major structures are to be built. Albuquerque's geology, being both riparian and mountainous, has affected the location of both historic and present populations. Albuquerque's geology, including its aquifer, will have a large impact on future growth of the city.

Questions

Why is Albuquerque's geology important?

The geology of Albuquerque is important for a variety of reasons. The flood plain created by the Rio Grande influences both agriculture and population patterns. The mountains not only limit population growth to the east, but affect how weather is formed in our area. Soils laid down by erosion and alluvial deposition have influenced farming and ranching.

How old is the Albuquerque area?

The granite that would become the Sandia Mountains was first formed one and a half billion years ago. The limestone that caps the mountain was laid on top of the granite 300 million years ago. Between seven to ten million years ago, a rift caused the previously flat land to rise, causing the Sandias. To the west of Albuquerque, volcanoes formed about 150,000 years ago, laying down layers of igneous rock

What are the differences between sedimentary, igneous, and metamorphic rock. Are all three types found in Albuquerque?

All three types are found in the Albuquerque area, and examples could be on display. Igneous (basalt) is caused by volcanic activity, metamorphic (schist) is caused through a change of igneous type rock, and sedimentary is rock that is laid down through erosion (sandstone).

How can fossils tell us the age of the rock they are found in?

Prehistoric plants and animals lived in a well defined period of time. When a particular animal died, the surrounding soil in which it died became rock and the animal's remains fossilized. That fossil will be a clue as to how old the rock is. For example, the state dinosaur coelophysis lived only in the Triassic. If a coelophysis fossil is found, then we know the rock the fossil is found in is also from the Triassic period (248-206 million years ago).

Discuss the following questions with students:
How does geology determine land usage?
Would Albuquerque be here without the Rio Grande? The Sandias?
How does geology in general affect human populations?
What are some of the human benefits of geology?

Procedures

Day 1: Engage a speaker with knowledge about the geology of the Albuquerque area to speak to students. Encourage the speaker to be specific about the time line of geological history. Advise students to pay close attention to the speaker, as the next day's activities will draw from today's activity. Encourage students' questions by asking pertinent questions of your own if students are silent. Recap the speaker's talk by asking students questions to make sure they understood.

Day 2:

- Have on hand books that show what types of animals and plants lived in different geological eras.
- Display a poster that shows the various geological time periods (Permian, Jurassic, etc.) Divide the class into groups of two or three.
- Hand out paper and art supplies.
- Have the teams replicate the geological time eras, but illustrate each time period with representative plants and animals indigenous to that time period.
- In the last ten minutes of class, have the students speculate as to what life must have been like in what is now Albuquerque in each of the main geological time periods.

Day 3:

- Go to www.aps.edu/aps/wilson/ AlbuquerqueGeology/panels.htm
- and print copies of each panel.

- Divide the class into groups of two or three. Give each group one of the preprinted panels.
- Each group is then to come up with their own mini-lecture based on the panel given to them.
- Each group should then practice their lecture so that it can be given on the next day.

Day 4: Each group from the previous day will be required to give a lecture (no more than five minutes each) on the panel that they were given yesterday. A quiz (either oral or written) can then be given at the end of class based on the students' lectures.

Day 5:

- Divide students into groups of two or three.
- Provide students with various colors of clay.
- Display the geological map of Albuquerque found in www.aps.edu.aps/wilson/AlbuquerqueGeology
  The students are to replicate the two-dimensional map into three dimensions with the clay.
- The final ten minutes of the class can be spent on reviewing the geological timeline and how it is represented in the students' clay models.

Extensions: Students can write a story about how Albuquerque has changed geologically, as viewed by an alien monitoring station. Students can produce an illustrated storyboard that would visually show the changes that Albuquerque has gone through since the beginning of the Earth.

Resources:

www.aps.edu/aps/wilson/AlbuquerqueGeology
www.cabq.gov/aes/s1picgeo.html
scienceviews.com/indian/pnmgeology.html
www.geosociety.org

University of New Mexico Earth and Planetary Sciences
505-277-4204
Bureau of Land Management 505-761-8700
New Mexico Bureau of Geology and Mineral Resources
505-366-2530

Roadside Geology of New Mexico. Halka Chronic Mountain Press Publishing Company
ISBN # 0 - 87842-209-9
Guidebook of West Central New Mexico. New Mexico Geological Society

Geology Museum, University of New Mexico, 505-277-4204

The First People of the Rio Grande Valley

The Rio Grande Valley was the scene of human activity for thousands of years before Europeans ever laid eyes on it.

Paleo-Indian People

Paleo-Indian people, who arrived from 12,000 to 7,500 years ago, were the earliest people to live here.

It was then the end of the Pleistocene period. The climate then was cooler and wetter, and there were glaciers on top of the Sandia Mountains and small shallow lakes called *playas* on the West Mesa.

The people hunted a wide variety of now extinct large game animals (megafauna) that roamed the river valley, including the mastodon, mammoth, sloth, giant armadillo, and bison antiquis. Their lives, tools and technology centered around hunting large game and gathering plants and seeds.

They moved their campsites often and over great distances. Small groups, probably extended family members, moved up and down the Rio Grande Valley in search of a variety of flora, fauna, and material items. The oldest artifacts found on the West Mesa are Folsom, and these date to about 11,000 years ago.

Archaic People

Archaic people, who were here from 7,500 years ago to AD 500, lived in much the same way. But with the extinction of large animals, they had to hunt smaller game. They also learned to use local plant species more extensively.

Over time, these small groups tended to stay within certain areas, relying on known local resources. As certain areas became more like home, they modified their tools to more specific resources, and tools became much less portable. By about 4,000 years ago, camp sites included larger and larger grinding slabs, and cooking pits and middens, or trash piles suggest people returned to the same place every year after making a seasonal journey to hunt game and gather plants.

This repeat visitation suggests that these early people were familiar enough with their environment to begin the type of plant selection that we call horticulture. Within this lifeway of semi-sedentary hunting, gathering, and horticulture, about 2,000 to 3,000 years ago, maize (the first corn) and maize agriculture appear in various locations within New Mexico, having arrived from central Mexico.

Agriculture was introduced to the Rio Grande valley shortly after this. Maize became a staple that was reasonably reliable, fairly abundant, and permitted a crop surplus that further reduced the need for mobility. This introduction marks the earliest beginnings of the settled lifeway associated with Pueblo culture. On the West Mesa, maize cobs and squash date to about 1,500 years ago.

Pueblo People

Between 500 BC and AD 500, the change from semi-sedentary hunter-gatherer to farmer came slowly, as the number of settled people increased. They lived in pithouses

(circular pits covered with sticks and hides). These pithouse villages became larger, and more sedentary materials were used – especially pottery. The gradual shift from subterranean villages to semi-subterranean pithouses, and finally surface structures occurred from about AD 500 to 900 in the Four Corners area and in the Mogollon Mountains of southern New Mexico.

Not until AD 900 did the traditional pueblo way of life become well established in the Albuquerque area.. This way of life was characterized by year-round living in above-ground villages and an economy based on growing corn, beans, and squash. Small pueblos, mostly made from stone, were built in the Sandia foothills and Tijeras Canyon areas during AD 1100-1200.

After A.D. 1200, the population of the Rio Grande Valley increased as the Four Corners and Mogollon Mountains were abandoned, likely due to drought. By about AD 1300 the Albuquerque area experienced a population explosion. At least 40 villages, many of adobe and standing several stories high, were built on both sides of the river between Bernalillo and Belen. Many had hundreds of rooms; the largest had over 1,000 rooms and probably several thousand inhabitants. Over time, Pueblo people lived in fewer and larger villages, for defense and because improved irrigation methods increased their food supplies to support bigger villages.

European Arrival

When the Spaniards led by Coronado arrived in 1540, they called these villages "pueblos," their word for "town." Captain Hernándo de Alvarado described 12 pueblos in present-day Albuquerque: "The houses are made of mud, two stories high. The people seem good, more given to farming than to war. They have provisions of maize, beans, melons and fowl in great abundance. They dress in cotton, (buffalo) skins, and coats made with the feathers..."

Another soldier in 1580 described the people of the Albuquerque area: "They make tortillas and corn flour gruel (*atole*), have buffalo meat and turkeys – they have large numbers of the latter." Every family had a pen with at least 100 turkeys in it. The people wore cotton blankets and tended large fields of cotton. They kept many small, shaggy dogs, which they kept in underground pens.

The pueblos nearest to Albuquerque were those of Puaray. Coronado asked the people of one village, called Alcanfor, to give up their quarters to house his men for the winter, which they did grudgingly. The newcomers also insisted the native people give them food and blankets. When two pueblos, Arenal and Moho, rebelled by stealing and killing the Spaniards' horses, Coronado attacked the pueblos and burned them. Fearful residents abandoned other Tiguex pueblos.

In 1680 all of New Mexico's pueblos united in a successful revolt, which drove the Spaniards from New Mexico for 12 years. When they returned in 1692 there were few pueblos in the Middle Rio Grande Valley. By 1706, at the founding of Albuquerque, there were none, although Sandia and Isleta people would return to resettle their villages.

Today New Mexico has 19 pueblos, each governed autonomously.

They don't all speak the same language. The Zuni Pueblo people who live south of Gallup speak Zuni. Keresan is the language of five pueblos north of Bernalillo (Santo Domingo, Cochiti, Santa Ana, San Felipe, and Zia) and two western pueblos (Laguna and

Acoma). Taos, Picuris, Sandia, and Isleta people speak Tiwa. Santa Clara, San Ildefonso, San Juan, Pojoaque, Tesuque, and Nambe speak Tewa. Towa is spoken at Jemez Pueblo.

Pueblo Life

Agriculture

Because corn was the dietary staple, good agricultural land was necessary for the establishment of a village. They also chose locations where the growing season was at least 120 days and where water was sufficient for both crops and domestic use. Sometimes the Pueblo people diverted stream water using ditches and canals. Other times they spread gravel mulch on garden plots to keep moisture in the soil and built check dams on slopes.

Using wooden digging sticks and hoes of stone and animal bone, they planted crops in several different settings so that if one area failed they might still have crops in another area. Corn depletes nitrogen in the soil, but the Pueblo people also planted beans, which add nitrogen. They also grew squash and some cotton.

Turkeys were kept for both feathers and meat. The only other domestic animal was the dog, used not for meat but as a guard animal.

Archaeologists know that there was a great deal of trade between villages. Pueblo people traded food and woven cloth to Eastern Apaches for buffalo robes. Other trade commodities were salt, hides, shells and cotton (for clothing).

Wild Foods

They gathered wild plants, including piñon nuts, Indian rice grass, amaranth, chokecherry, wild plum, cacti and other plants. Hunting provided not only animal meat but also fat, leather and bone for tools.

A variety of birds were hunted for their feathers, such as hawks, owls, eagles, bluebirds, quails, doves and waterfowl.

Tools

Manufacture of tools for food processing required many raw materials. Wood was needed for digging sticks and bows. Arrowheads, knives, and scrapers were made from stone shaped by flaking. Sandstone, basalt or limestone was used to make manos and metates for grinding corn. Baskets made of reed and yucca fiber were used to winnow grains and carry things. A common tool used by the Pueblo people was the awl, made from the bone of deer or antelope and used in making baskets.

Pottery was important to the pueblo people. They fashioned bowls and jars for cooking, storage and serving food and water. Pottery making required a source of fine clay which helped prevent shrinking and cracking during firing. Potters used organic pigments and mineral pigments to decorate their wares. From about AD 130 to the 1700s the Pueblo people of the Rio Grande Valley used a glaze paint made by grinding up lead to decorate their bowls.

Images

The rich spiritual life of the Puebloan ancestors is reflected in wall paintings found in underground ceremonial rooms called kivas. Thousands of images carved into the basalt boulders of the nearby West Mesa have a strong connection to the mural paintings. Many Pueblo people believe that the petroglyphs are alive and have direct ties to their ancestors.

Architecture

Each Pueblo was different but all included contiguous rectangular rooms, ceremonial rooms (square or round), a plaza and a trash area (midden*).* Rooms were constructed of either rocks set into adobe mortar or of puddled mud, which was adobe built up in thin layers to form walls. Adobe bricks were introduced by the Spanish. Timber was cut for vigas and latillas and used to support flat adobe or earthen roofs. Each village needed wood not only for houses but for firewood for cooking and heating.

The ancestors of today's Pueblo people, like all other humans, required food, water, shelter, the comfort of others and a sense of security in dealing with the natural environment. They had no wheels and no written record. They had to master many different skills in order to survive, and they had to work cooperatively, according to a schedule. They learned from the experiences of those in their community and each village became an independent political unit. Since they did not "own" the land each village worked hard to use the resources according to their needs.

References:

Roberts, Calvin A. and Susan A. Roberts. A History of New Mexico.

Rosner, Hy and Joan. Albuquerque's Environmental Story: Toward a Sustainable Community.

Sánchez, Joseph P. The Rio Abajo Frontier, 1540-1692: A History of Early Colonial New Mexico.

Simmons, Marc. Albuquerque: A Narrative History

Sturtevant, William C., ed. Handbook of North American Indians: Southwest, Vol. 9.

Lesson Plan: First People/ Pueblo Indian Life

By Catherine Mondragon

New Mexico Content and Performance Standards

Social Studies: Seventh Grade
Strand 1: History
Standard 1: Students are to identify important people and events in order to analyze significant patterns, relationships, themes, ideas, beliefs, and turning points in New Mexico, and to understand the complexity of the human experience.
SS 7.1.10 Demonstrate the ability to examine history from the perspectives of the participants.

Strand 2: Geography
Standard 2: Students understand how physical, natural, and cultural processes influence where people live, the ways in which people live, and how societies interact with one another and their environments.
SS 7.2.2 Describe factors affecting location of human activities, including land use patterns in urban, suburban, and rural areas.

Strand 3: Civics and Government
Standard 3: Students understand the ideals, rights, and responsibilities of citizenship and understand the content and history of the founding documents of the United States with particular emphasis on the United States and New Mexico constitutions and how governments function at local, state, tribal, and national levels.
SS 7.3.10 Explain the obligations and responsibilities of citizenship, such as obeying the law.

Language Arts: Seventh grade
Strand 6: Research
Content Standard: The student conducts and compiles research data, synthesizes findings, and develops an original conclusion to increase personal and community depth of knowledge.
LA 7.6.2 Uses a variety of resources to express individual perspective in response…..

OBJECTIVE: Students will have a greater perspective of the historical value of leaving records of human existence.

Procedures

Activity 1
1. Students will complete a KWL chart on petroglyphs in New Mexico as part of building the background knowledge and pre-assessing knowledge.
   a. Teachers will allow each student to make a list of what they know about petroglyphs or pictographs. During the group discussion, the teacher records the students' information on a chart.
   b. Next students will be asked to write down their own questions of what they would

like to know more about with regard to ancient rock carvings or paintings. These will also be recorded on a chart during group discussion.

c. Finally, using classroom resources, allow students to research the information regarding petroglyphs and pictographs and their questions. During whole group discussion, their findings will be recorded on the chart in the "What We Have Learned" column.

2. Read *Stories on Stone* by Jennifer Owings Dewey and/or *Petroglyphs Ancient Language/Sacred Art* by Sabra Moore. (Both books are available at the APS Cross Cultural Center.)

Define these vocabulary words:

pictographs

petroglyphs

culture

artifact

symbols

history

images

ancestor

sacred

patina

3. Discuss and answer these questions:

What would you think is the significance of the American Indian petroglyphs in the Albuquerque area? Why is there such a concentration here?

How do you think these images have lasted over the centuries?

Pretend you need to leave a message to future generations about your life as it is today; writing in English, what would your message be?

4. How do you think the lives of the Native Americans today differ from their Native relatives who wrote on those rocks and walls long ago?

Think of a symbol that is common today (the swoosh, golden arches, a cross, etc.) What does the symbol mean? Does this symbol have different meanings for different people?

Definitions for Vocabulary
petroglyphs - symbols made upon a rock by pecking, incising, or scratching
pictographs - picture writing in a painted form upon any material
culture - the characteristic features of a civilization, including its beliefs, its artistic and material products and its social institutions
artifacts - a simple object, such as a tool or ornament, showing human work
symbols - any drawing used in pictography to convey any type of meaning
history - a branch of knowledge that records and explains events of the past
images - symbols representing people or things
ancestor – someone of a past generation(s)
sacred - connected with religion or religious rites; items regarded with respect
patina - a thin coating or color resulting from age

Students may use resource materials to look up and define the words or the teacher could write only the definitions on sentence strips for students to use to match the definition to the word.

Questions are open ended to persuade thought and discussion. Teacher discretion is necessary for assessment.

Activity 2
Objective: Students will experience some of the challenges of making petroglyphs or pictgraphs to relay messages without the use of a written language.

Suggested materials:

- Large flat rocks, sheet rock, paper bags, sandpaper, or drawing paper
- Paint brushes, small nails. Brushes can be made out of yucca fibers (gathered along the foothills of the Sandias), for an authentic experience. Take one piece of yucca leaf and scrape one end with scissors or rocks to expose the fibers to make it a brush.
- Tempera or acrylic paints. Traditional paints are made from egg whites, animal fat, or honey, mixed with crushed flowers. Black came from charcoal. Other colors were made by grinding down copper ore, which gave blues and greens, or iron oxide for reds.

Students working individually or in groups may begin by studying a variety of petroglyph images. (There is abundant information on this subject. See Resources in the background information or in this Lesson Plan.) Check for geometric and abstract forms. Look for symbols that depict natural elements or phenomena from the real world. Discuss how each set of symbols is paired. Discuss the students' interpretation of these sets of pictures. What might the ancient ones' message be? Allow time for selection or creation of a design as well as time to practice drawing it.

Give each student whatever material the teacher has access to, to use as the surface to be painted. Depending on teacher resources, use the paint the teacher has available. Another

choice is to create a petroglyph using shards of greenware or other soft rock-like surface to peck or chip out images using another sharper rock or nail. Choosing a pictograph or petroglyph, students will draw on their surface symbols used by ancient Native Americans to construct a message the students would like to leave for generations to come. Exchange projects with other students in the class to challenge them to decipher the message.

Activity 3

Objective: Students will become aware of laws regarding the protection of national parks or monuments, national forests or other public lands on which there are petroglyphs and pictographs. Students will have a greater appreciation for national treasures. Students will learn about the careless treatment of petroglyph sites and how to preserve the remains of these ancient civilizations. While some people refer to petroglyphs and pictographs as "rock art" there is no word for "rock art" in the Pueblo languages.

- Have students individually or in groups make a list of acceptable rules of behavior at home. Have students discuss the consequences to breaking rules parents have at home. Students discuss with each other what would be the effect within the household if these rules were not followed consistently.
- Give each student a piece of chalk. Students will write short appropriate messages or drawings on the sidewalk outside. Leave for a day and check the drawings the following day.
- On the following day discuss how the drawings outside have remained. Discuss the similarities rock art sites face.
- Do worksheet.
- Have teacher or student (at teacher's discretion) download article by American Rock Art Association or students may read online: ARARA Guidelines for Managers of Rock Art Sites on Public lands. www.arara.org/guidelines
- Discuss any one or more of the policies mentioned. Arguing the students' positions, write a Congress person or senator to provide suggestions for conservation and/or preservation.

Petroglyph Site Etiquette

The single largest problem cultural resource managers face is unintentional damage caused by visitors. Sadly, impacts occur even where visitors consistently practice minimum-impact techniques. Therefore, when visiting archeological and historical sites, minimum-impact techniques are a requirement. There can be no compromise in protecting these fragile and priceless resources.

Archaeological sites are protected by the Antiquities Protection Act of 1906 and the Archaeological Resources Protection Act of 1979 (ARPA). The 1979 Act provides stiffer penalties, plus a reward for information that leads to a conviction. Please notify rangers if you discover any illegal activity.

Word Box					
Artifact	touching	disintegrate	vandalism	trail	site

Keep in mind that not entering a __ __ __ __and viewing it from a distance will reduce the impact a __ __ __ __ receives. People may say, “It’s just a couple of us, and it’s just this one time,” but there may be thousands of people saying the same thing.
If a __ __ __ __ __ has been built across a site, stay on it. Foot traffic causes erosion that may undermine the wall of structures above. This is the most severe type of impact caused by continual visits to a site.
When you see many potsherds, and other __ __ __ __ __ __ __ s, leave them. If each visitor took just one __ __ __ __ __ __ __ __, there would soon be none left.
Moving rocks and tree branches to climb to high places destroys site integrity.
Avoid __ __ __ __ __ __ __ __ plaster walls.
Enjoy rock art by viewing, sketching, and photographing it. NEVER chalk, trace, or otherwise touch petroglyphs or pictographs. Any kind of direct contact causes these ancient figures to _ _ _ _ _ _ _ _ _ _ .
Creating modern “petroglyphs” is known as _ _ _ _ _ _ _ _ _ and is punishable by law.

Resources:

In the Light of Reverence, DVD or VHS. Bullfrog Films, Oley, Pa. 19547, 800-543-3764, www.bullfrogfilms.com

Petroglyph National Monument
National Park Service
City of Albuquerque

Web sites:

http://rockart.uark.edu/lpsymbols.html
http://www.comnett.net/~kolson/Lesson%20Plan.html
http://www.nps.gov/care/arpa.htm

Bibliography:
Dewey Owings, Jennifer. *Stories On Stone* University of NM Press, 2003.
Martineau, LaVan. *The Rocks Begin To Speak* KC Publications, Las Vegas, Nev.1973
Moore, Sabra. *Petroglyphs-Ancient Language/Sacred Art* Clear Light Publishers, Santa Fe, NM, 2003.
Patterson, Alex. *A Field Guide to Rock Art Symbols of the Greater Southwest*. Johnson books, Boulder, Colo. 1992.

Lesson Plan 2: Waffle Gardens or Grid Gardening

By Mary Abeita

New Mexico Standards: Social Studies
Strand 2: Geography
Students understand how physical, natural and cultural processes influence where people live, the ways in which people live and how societies interact with one another and their environment

7.2.2 Describe factors affecting location of human activities, including land use patterns in urban, suburban, and rural areas.
7.2.4 Describe the role of technology in shaping the characteristics of places.
7.2.13 Explain how ecosystems influence settlements and societies.

Objectives: Students will learn (1) about the dry farming and inter-cropping methods used by Pueblos prior to arrival of the Spaniards and Europeans in the Rio Grande Valley; and (2) how Pueblos continue to use this technology today.

Introduction

By the 1300s the Pueblo people started to settle along the Rio Grande Valley, where there was a continuous flow of water. The land was moist and conducive for planting. Their ancestors had once lived in a dry, hot climate, where there was little rain or moisture for farming. During the drought seasons, the people found it necessary to move in order to survive. They eventually moved into the Rio Grande Valley and became farmers. At one time there were at least 100 different Pueblos Tribes living along the Rio Grande River who moved off the deserts to sustain their lives.

The Pueblo people were very skillful farmers. Their ancestors had at one time used the dry-farming method to cultivate their foods. They learned to catch and slow down water from the spring rainwater by building dams made from soil, rocks and shrubs. They learned to channel rainwater into fields and stream beds that were made of clay, so that moisture would collect deep down under the earth. They knew where to find fields for planting, and sometimes traveled great distances to tend one or two fields.

One type of garden the Pueblos cultivated was the “waffle” garden, or grid garden. It was named because, from an aerial view of the earth, the gardens left from long ago looked like a giant waffle with square ridges. This technique was proven very efficient by the Pueblo people and in some Pueblos, it is still used today.

The waffle garden was one way of conserving water. Traditional waffle gardens were terraced along small watersheds, where water runoff could be collected. Drought resistant varieties of corn, squash, beans, melons, cilantro and chili were grown in the gardens. Farmers gathered and used stones to outline and surround their rectangular growing plots or gardens.

The waffle gardens were mulched with sand or clay, rock and gravel. The clay and adobe walls were used to hold water and to maintain moisture in each grid. Gravel was used to trap dew and the condensation of water. Black igneous rock held heat collected from the sun and was used to extend the planting season for some tribes. In some waffle gardens, some walls were built a little higher to protect the plants from dry winds. When there was no water between rain seasons, the women carried jars of water

to the waffle gardens to water plants. Irrigation was virtually unknown to the Pueblos until the arrival of the Europeans.

The Pueblos also used the inter-cropping system, which was also called the "Three Sisters." This method of planting crops was used and practiced by most tribes for hundred of years. The "Three Sisters" were corn, beans and squash, which were planted together. Because corn uses up the nitrogen in the soil, it required a nitrogen-fixing bean. The bean in returned used the corn as a support to climb on, while it collected nitrogen from the atmosphere and put it back in the ground. The squash was used like mulch; it kept the soil from drying up, provided shade and prevented weeds from growing.

The Three Sisters are not planted close but given enough space so that the squash plant will have enough room to spread out over the ground. Corn was an important food staple to the Pueblo; it made up 80 percent of their diet. It also became an important part of their life, religion, and ceremony.

References:

Underwood, Ruth. Life in the Pueblo.

Activity 1: Using KWL Chart

Students will complete a KWL Chart on "Pueblos Living in New Mexico" to build their background knowledge and support group discussion. The main idea here is to find out what students know about the Pueblos Indians living in their neighborhoods and the surrounding Indian reservations near the Albuquerque area.

1. Teachers will allow students to make a list of what they know about Pueblo Indians. Then as a group discussion, the teacher will write down student comments on the chalk board.
2. The teacher will ask students what they want to know about Pueblo Indians. Each student will write down their own questions and generate other questions from the class. The teacher will write down these questions on the blackboard and students will copy them down.
3. Teacher at this point may decide to break students into small groups and assign questions to be answered. Next, using classroom resource books, encyclopedias and the internet, the teacher will allow students will try to research answers to questions. Students will record findings on a large sheet of paper. They will share and discuss what they have found with their class. Students will copy these ideas down in the column "What we have Learned."

Activity 2: Drawing Pueblo Farming Techniques

Students will show their understanding of Pueblo farming techniques.

1. Students will identify the following vocabulary words before they start on worksheet: waffle, watershed, ridges, adobe, grids.
2. Allow student to look over resources on dry farming and Three Sister Gardens, using resource books and the Internet.
3 Provide students with Pueblo farming technique worksheet to illustrate these farming ideas.

Estancias in the Cottonwoods

Founding of Albuquerque

I certify to the king, our lord, and to the most excellent señor viceroy: That I founded a villa on the banks and in the valley of the Rio del Norte in a good place as regards land, water, pasture, and firewood. I gave it as patron saint the glorious apostle of the Indies, San Francisco Xavier, and called and named it the villa of Alburquerque. -- Don Francisco Cuervo y Valdes, April 23, 1706

Don Francisco Cuervo y Valdes, acting governor of the Province of New Mexico, sat at his writing table in the adobe structure now known as the Palace of the Governors in the Villa de Santa Fe. His letter assured the king and viceroy that the location of the new villa was well chosen.

General Juan de Ulibarrí had previously scouted this area and found that the place met Spanish requirements that a town site have tillable land, water, pasture and firewood.

Pueblo Revolt

The new villa was in a place known as the Bosque de Doña Luisa. It was named for the wife of landowner Francisco Trujillo. Their home and about 20 others had been established in the area earlier but were destroyed in 1680 during the Pueblo Revolt. Religious intolerance, forced labor and levies on food and weavings led the Pueblo people to rebel against Spanish missionaries and colonists. Three of the four pueblos in the Albuquerque area – Alameda , Sandia, and Puaray – joined in the revolt. More than 120 area colonists were killed, and 1,500 persons were forced to flee to El Paso, along with the people of Isleta Pueblo.

For the next 12 years the Province of New Mexico remained under the control of the Pueblo Indians.

The Reconquest

In 1691 the Spanish Crown appointed Don Diego de Vargas Zapata y Luján as governor, with a commission to reconquer and resettle the province. Vargas made an initial expedition into New Mexico in 1692, obtaining promises of cooperation from the Pueblo Indians. But it was necessary for Vargas to fight a series of skirmishes and pitched battles when he returned with colonists in 1693.

After the reconquest, colonists began to establish new farms and ranches, and to resettle homesteads abandoned during the Pueblo Revolt. It wasn't easy. New Mexico was parched by a six-year drought. Apaches and Navajos raided often, and the province was isolated from government and military aid. Vargas died in 1704 in Bernalillo while attempting to punish Apaches who had been raiding farms in the Rio Grande Valley.

New Governor

The viceroy appointed Francisco Cuervo y Valdéz as acting governor of the province, and he arrived on March 10, 1705.

Cuervo hoped to convince the king that his appointment should be permanent. He was, in fact, an experienced bureaucrat. Arriving in New Spain (Mexico) in 1678, he had

spent 25 years in Spanish colonial service in posts ranging from captain of infantry in Sonora to governor of the provinces of Nuevo Leon and Coahuila. He was regarded as a skilled administrator and soldier with considerable knowledge of frontier affairs.

New Mexico then didn't look promising. Cuervo wrote to his superiors: "I have never seen so much want, misery, and backwardness in my life. I suspect this land was better off before the Spaniards came." Over the next few months he inspected the regular troops and militia. Finding their numbers to be inadequate, he made repeated requests for more soldiers and spread the 100 regular soldiers stationed in Santa Fe around the province.

And he decided the Middle Rio Grande area needed a town.

Villa de Alburquerque

Early in 1706 Cuervo decided to found an administrative center in the Middle Rio Grande Valley. He was drawn to an area known as El Bosque Grande de Doña Luisa (The Large Grove of Doña Luisa) near the present site of Old Town.

The Villa de Alburquerque was established along El Camino Real, the Royal Road linking Santa Fe with distant Chihuahua and Mexico City. It was located in the *bosque* among the cottonwoods on an easy ford of the Rio Grande, the river to the west, and had good access to the Cañon de Carnue (Tijeras Canyon), a pass giving access to the plains beyond the mountains to the east. The villa was an ideal crossroads for all travelers to all parts of the province.

Cuervo chose the name Alburquerque to honor the Duke of Alburquerque, Francisco Fernández de la Cueva, who was then Spain's viceroy in Mexico – and Cuervo's superior. (The name Alburquerque dates from the time of Romans in Spain. Albaquercus was the name of a town in Spain and comes from the Latin words *albus quercus*, which means white oak. The name of the town, like the duke, had two Rs, but one was dropped after the United States took over in 1846 because the Americans could not pronounce the name with the first R. By the 1880s, the original spelling was no longer used.)

The governor had previously announced a new villa in the province and invited settlers to move to the area. People from the Bernalillo area responded, but because of raids by Navajos and Apaches, they would not have come without protection. Gov. Cuervo posted ten soldiers, who moved here with their families.

The soldiers were: Captain Don Martín Hurtado, Juan de Pineda, Francisco García, Pedro de Chávez y Durán, Andrés de Montoya, Sebastián de Canseco, Antonio de Silva, José de Salas, Tomás García, Xavier de Benavides.

Some of the first families were those of Cristóbal Jaramillo, Juan Barela, Francisco Candelaria, Feleciano Candelaria, Nicolás Lucero, Baltazar Romero, Joaquín Sedillo, Antonio Gutiérrez, Cristóbal Barela, Pedro López y Castillo, Doña Bernardina Salas y Trujillo, and Juana López y Castillo.

The governor wrote his superiors that great progress had already been made. Thirty-five families (252 adults and children) already occupied the town, he said. The settlers had completed their houses, built corrals, dug irrigation ditches that were full of water, and that their first crops had been planted – all without any expense to the Royal Treasury. The town, he said, was well planned and in good order. The *casas reales*

(government buildings) were under way, there was a large church, and a formal founding ceremony had been conducted.

Cuervo wanted his superiors to know that he had followed the procedures for the establishment of new villas set down in the *Recopilacion*, the book of statutes that governed the conduct of colonial officials.

Three days later Cuervo wrote the viceroy that he had followed all royal laws in establishing the Villa de Alburquerque. He wrote, "I do not doubt, very excellent lord, that in a short time this will be the most prosperous Villa…"

Ambitious Bureaucrat

In his zeal to found the new villa, Cuervo failed to ask permission from the viceroy and, through him, the King of Spain. He had also forgotten to file the necessary papers to obtain a land grant for the new villa. It was a poor political move for a governor, let alone an acting governor, to designate a settlement a villa, an administrative center and the second highest category of town without permission.

This was not his only mistake. He had also chosen as patron saint San Francisco Xavier. The duke was displeased. He had received a recent order from Madrid that the patron saint of any new settlement in New Mexico would be San Felipe, patron saint of the new sovereign, King Felipe V.

Cuervo appointed the soldiers' captain, Martín Hurtado, to serve as the first *alcalde*, or mayor. And it was Captain Hurtado who assigned the families their land during January 1706 and who conducted the founding ceremony the next month on February 7. There are no records of the ceremony, but customarily colonists pulled up grass, threw rocks in the air and shouted, "Long live the king!" It was recorded some time later that the settlers had sworn an oath when they took possession of their lands.

Cuervo didn't get his wish. Instead he was replaced by José Chacón, the Marqués de la Peñuela, who literally bought the New Mexico governorship from the king. In 1707 Cuervo returned to Mexico City where he worked in the colonial government until 1712.

Investigation

At that time it was common practice to review the tenure of Spanish colonial officials after they left office. In 1712 officials looked into the records of Cuervo's 28 months in New Mexico and raised questions about his founding of the Villa of Alburquerque. Had the villa been legally founded? Were there 35 founding families?

When Governor Flores Mogollon received the royal *cedula*, or decree, from Madrid he appointed General Juan Paez Hurtado to carry out the investigation. His judicial inquiry at the Villa de Alburquerque on October 21,1712 recorded the following statement from Pedro Acenzio Lopez:

Question: Was he one of the founding citizens of the villa, which was settled by order of Don Francisco Cuervo?

Lopez: That was true. He had joined with his father, Pedro Lopez, when the governor founded it.

Question: How many persons were in his family?

Lopez: Five.

Question: Did he know the total number of founding families?

Lopez: There were 19 original families, plus the ten soldiers, with their women and children, who served as guard for the vicinity. The 19 families at the time comprised 103 people, not counting dependents of the soldiers. Now they totaled 129 people.

Question: Had the said Don Francisco Cuervo provided them any government aid (ayuda de costa) at the founding?

Lopez: He knew of none.

Question: Had the villa been established in proper form with streets and a plaza?

Lopez: He and the other settlers had moved into the houses abandoned by the Spaniards in 1680, occupying the same estancias and farms. What was called the villa stretched for more than two and a half miles (one league) from the first house to the last.

Question: Were there now any families here beyond those settled by Don Francisco Cuervo?

Lopez: Yes. Seven additional families with 22 people.

Pedro Lopez then declared that he knew no more about the matter and was dismissed.

Captain Fernando Duran y Chavez, asked if Albuquerque had been lawfully formed with streets and a plaza as his Majesty required, responded that the villa was the same as it was, with residents living in homes built before 1680. The homes were scattered for a league from the first house of Baltasar Romero on the north near current Ranchos de Albuquerque to the home of Pedro Lopez, the last house on the south below present Central Avenue. He replied that all this area was "*en mucha alameda*," heavily wooded. He also reported that it was by the authority of Governor Cuervo that the pre-Pueblo Revolt estancias and farms were given to the settlers.

The Real Story

What apparently happened is that 19 families migrated to the Albuquerque area upon learning that ten soldiers would be stationed here. They probably didn't come as one party but in small groups. On arrival they were assigned individual land grants. Many of those, especially the 12 families Juan Candelaria mentions as coming from Bernalillo, were actually reclaiming properties that had belonged to their families before the Pueblo Revolt of 1680.

All households apparently received private grants of farm and ranch land. There is no evidence that any family was enrolled as a member of the community grant alleged to have been made to the villa of Albuquerque. As the 1712 investigation revealed, Albuquerque was not the usual compact village but, rather, a collection of farms spread along the Rio Grande.

The commission of inquiry found that Cuervo had provided land and pre-Pueblo Revolt houses and farms to settlers who came in small groups from other settlements. He did not have the 30 families required by Spanish law for establishing a royal villa. There was no plaza. There were no government buildings. There were no surveyed streets. The church was far more modest than the acting governor had declared.

At the close of the inquiry the viceroy reviewed the proceedings and agreed to let stand Alburquerque's designation as a villa. Cuervo had stretched the truth, but Spain needed an administrative center in the *Rio Abajo,* or the lower river area.

Besides, Alburquerque was in a good location, its settlers were hard working people, and the village had excellent prospects for the future. No charges were brought against the former acting governor; blatant exaggeration and self-promotion by civil servants and politicians were not uncommon. And on the frontier, the Crown tolerated some irregularities in its new colonies.

Resources:

Sanchez, Joseph. The Rio Abajo Frontier, 1540-1692.

Simmons, Marc. Albuquerque: A Narrative History.

Simmons, Marc. Hispanic Albuquerque 1706 – 1846.

The Albuquerque Museum. The Founding of Albuquerque.

Lesson Plan: The Founding of Albuquerque

By Bianca Belmonte Sapien

Objectives (From APS District Core Curriculum Scope and Sequence, Seventh Grade)

History and Culture
Learners will exhibit an understanding of the ways human beings view themselves in and over time, cite examples of the contributions of Spain to the development of New Mexico, identify formal and informal leaders from New Mexico's diverse cultures who have influenced the state's past and present

Geography
Learners will exhibit an understanding of the connections and relationships among people, places, cultures, and physical environments; and describe how geography has affected the development of civilizations in North America.

Economics
Learners will exhibit an understanding of how people organize for the production, distribution, and consumption of goods and services in a global society.

Civic Understanding
Learners will exhibit an understanding of the ideals, principles, and practices of citizenship in a democratic republic and in other forms of governance; identify and describe the role of institutions such as government, education, religion, family, and business in furthering both continuity and change.

State Standards and Benchmarks

History

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.

Benchmark I-A, New Mexico:

- Explore and explain how people and events have influenced the development of New Mexico up to the present day.
- Explain the significance of trails and trade routes within the region, such as the Camino Real and the Santa Fe Trail.
- Describe how important individuals, groups, and events affected the development of New Mexico from 16th century to the present (e.g., Don Juan de Oñate, Don Diego deVargas, Pueblo Revolt, Popé).
- 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).

- Explain the impact of New Mexico on the development of the American West up to the present, to include: Availability of land (e.g., individuals, governments, railroads, tribal) government land grants and treaties; transportation (e.g., wagons, railroads, automobile); identification and use of natural and human resources; population growth and economic patterns; cultural interactions among indigenous and arriving populations and the resulting changes.

Geography

Content Standard II: Students understand how physical, natural, and cultural processes influence where people live, the ways in which people live, and how societies interact with one another and their environments.

5-8 Benchmark II-A:

- Analyze and evaluate the characteristics and purposes of geographic tools, knowledge, skills and perspectives and apply them to explain the past, present, and future in terms of patterns, events, and issues.
- Describe ways that mental maps reflect attitudes about places.
- Describe factors affecting location of human activities, including land-use patterns in urban, suburban, and rural areas.

5-8 Benchmark II-C:

- Understand how human behavior affects human-made and natural environments, recognizes past and present results, and predicts potential changes.
- Explain how differing perceptions of places, people, and resources have affected events and conditions in the past.
- Interpret and analyze geographic information obtained from a variety of sources, such as maps, first-hand accounts, photographic and digital data, symbolic representations [e.g., graphs, charts, diagrams, tables], personal documents, and interviews.

5-8 Benchmark II-E:

- Understand how economic, political, cultural, and social processes interact to shape patterns of human populations, and their interdependence, cooperation, and conflict.
- Analyze New Mexico settlement patterns and their impact on current issues.
- Explain the accessibility to the New Mexico territory via the Santa Fe Trail and the railroad, conflicts with indigenous peoples, and the resulting development of New Mexico.

Civics and Government

Content Standard III: Students will understand the ideals, rights, and responsibilities of citizenship and understand the content and history of the founding documents of the United States with particular emphasis on the United States and New Mexico constitutions and how governments function at local, state, tribal, and national levels.

5-8 Benchmark III-B:

- Explain the significance of symbols, icons, songs, traditions, and leaders of New Mexico and the United States that exemplify ideals and provide continuity and a sense of unity. Explain the concept of diversity and its significance within the political and social unity of New Mexico.
- Describe ways in which different groups maintain their cultural heritage.
- Identify official and unofficial public symbols of various cultures and describe how they are or are not exemplary of enduring elements of those cultures.

Setting :
Classroom, field trip, public setting for acting out play

Resources:
(Ask librarian to compile an ABQ Tricentennial bookcart.)

Chavez, John R. The Lost Land: The Chicano Image of the Southwest. 1984

City of Albuquerque. Albuquerque Tricentennial 1706-2006. The Official Guide. 2005

Gutierrez, Ramon A. When Jesus Came, the Corn Mothers Went Away; Marriage, Sexuality and Power in New Mexico, 1500-1846. 1991

Hill, Gene. Americans All, Americanos Todos: A Bilingual History of The Contributions of Hispanics to The Development of America. 1997

Novas, Himilce. Everything you Need to Know about Latino History. 1994

Roberts, Calvin A. and Susan A Roberts. A History of New Mexico, Second Revised Edition. 1998. (Chapter 8)

Simmons, Marc. Coronado's Land: Essays on Daily life in Colonial New Mexico. 1991

Weber, David J. Ed. Foreigners In Their Native Land: Historical Roots of the Mexican Americans. 1973

Speakers: The New Mexico Humanities Council can provide speakers and Chautauqua actors. See http://www.nmeh.org. The Tricentennial Committee also has a speaker's bureau. See www.albquerque300.org.

For additional information see the Southwest Hispanic Research Institute and the Center for Southwest Research at UNM.

Tools:
Lined paper, pencils, pens, 3X5 lined note cards

Video camera
Simple fabric for costumes

Setup & Preparation

Teacher will introduce the unit of study, asking three students to be volunteers. Students will be asked to role play as if they were in the grocery store.

Setting: The shopper is trying to gather ingredients to make dinner.

Create role cards for the students: One actor is the clerk, one is the shopper and the other is a child. On the cards write a brief description of what the actor should do just to get the action started. After that the students should ad lib. Allow for 5 or so minutes and stop the action. Have the class praise the brave volunteers by applauding.

Explain to the students that they are going to create role cards and act out the Founding of Albuquerque. Follow with an explanation that this is to commemorate or celebrate the 300th anniversary of the founding of Albuquerque. Students may say it is Albuquerque's Tricentennial and explain that this is the reason we are going to learn about how Albuquerque was founded.

What year was that? 2006 – 300 = 1706. Explain that after an overview, students will research characters and create role cards/scripts and then in small theater groups, they will act out the founding of Albuquerque. Arrange to have another class, parents, teachers or staff to be the audience.

An overview may be conducted by having students read, highlight, or listen to teacher-selected information from the historic background provided with this lesson plan. Remind students that they are trying to understand the series of events surrounding the founding of Albuquerque.

After providing information, the teacher should give an exit quiz where students list 5 important events they remember from the reading. Students could also visit the Museum of Albuquerque. The reading or field trip could be a homework assignment and the five important events found by students could be discussed in a large or small group setting before students begin writing their role cards/scripts.

Learning activities

Days 1-3:

After the overview, teacher places materials in central location for students to access. This could be in the library/media center or in your own room. Also, students may use index cards to create their role cards. Students may use computers to type their scripts.

Students use various teacher-provided materials to take notes to develop character role cards/script of the founding of Albuquerque. Students' scripts/roles may vary but should demonstrate a minimum of 5 events surrounding the founding of Alburquerque. Clearly label the top of each card with the role. Each role should be on a separate index card. Inform students that they should create even amounts of dialogue for each group member and may include a narrator.

Information could be specific about the founding or could be a series of events. Although mostly historical in nature, students may add fiction to emphasis important historical events, such as dropping the R from the spelling of Albuquerque. (This could be exaggerated by the students for humor.)

Teacher should circulate the room after giving individuals a chance to select their materials. Check student work. Remind students to have at least five events or main points. Ask guiding questions: What roles are you researching? What events are you focusing on? What are you choosing to leave out? Who is going to act the part of ….?

Collect notes and review which roles the students selected to research. Make a master list. If students left out key events or personalities review importance and suggest students adapt their scripts. Tell students to rehearse and prepare simple costumes (though not required). Student may use prompt cards – no memorization required.

Day 4-5: Student performances.

Assessment

Teacher can award points or +/- for introduction/lesson overview exit notes.
Teacher observation of research.
Teacher can award points or +/- for role cards/scripts.
Students can evaluate how well they participated in creating scripts.
0= no participation, 1=shared notes, 2= shared notes and written dialogue

Performance Evaluation
0=did nothing
1= Dialogue uneven, events unclear, less than 2 demonstrated
2=Dialogue adequate, events unclear, less than 4 demonstrated
3=Proficient: Dialogue adequate, events clear, 5 stated
4= Exemplary: All of 3, information beyond 5 events

Extension (optional activities)

Create scenery
Merge the groups' skits to make a class play
Compare to city life and government today
Compare and contrast to life in Spain at the same time
Discuss, compare, contrast to the life of native people at the same time

Hispanic Life in Early Alburquerque

Albuquerque, during the first century after its founding, witnessed sporadic episodes of high drama: Indian attacks and reprisals, violent quarrels among the colonists, famines, and plagues. But behind such troubles flowed the quiet, unsensational stream of ongoing daily life that characterized all New Mexican communities in the days of Spain's colonial rule. -- *Marc Simmons*, Hispanic Albuquerque 1706-1846

Life in Spanish Colonial Albuquerque from 1706 through the mid 1800s reflects people's struggles to survive -- raising crops and farm animals, coping with disease and injury without doctors, defending against raids by Navajos and Apaches, and doing without niceties or manufactured goods.

Early Years

Long before the founding of Albuquerque in 1706, Spanish settlers were already in the area. On the site of Albuquerque lived Francisco Trujillo, and the area was known as the Bosque de Doña Luisa, named for his wife. There were several dozen estancias by the 1660s. Their residents attended church at the pueblo missions and traveled occasionally to Santa Fe.

Like other settlers, they were driven out or killed during the Pueblo Revolt of 1680. Some of the occupants returned in 1693, after the Spaniards reclaimed the area.

Initially the Spanish government provided food and tools while the settlers got re-established, but in 1698 the royal treasurer declared that the New Mexicans should now sustain themselves. This decree coincided with a severe drought, which lasted until 1704. As streams dried up, pastureland turned to dust and crops withered, both livestock and people suffered.

At the invitation of the governor to join the new Villa de Alburquerque, additional settlers came from Bernalillo in 1706 and set to work establishing farms up and down the Middle Rio Grande Valley.

The grove of cottonwoods was an important resource. It provided fence posts, corral poles, timbers for houses, wood for tools, and it was a good fuel. Because of heavy use, the bosque in time became depleted, and settlers had to travel farther and farther for their wood.

What did the people look like? Ranchers wore big hats, silver buttons and a bright sash at the waist. Less wealthy men wore loose-fitting shirts and trousers made of the locally produced white cloth, *sabanilla*, or *gamuza*, tanned skins of deer or elk. Younger women wore blouses and skirts, and older women added to that a black fringed *tápalo*, or shawl. They all wore *teguas*, a hard-soled moccasin.

Farming and Ranching

They raised corn, beans and squash, as the Pueblo people did. They also brought plants and seeds from Spain, including cabbage, onions, lettuce, radishes, cantaloupes

and watermelons, plus such grains as wheat and barley. Crops that came up with settlers from Mexico were chile, tobacco, Mexican beans and the tomato. And they brought a new variety of corn with a long cob and white kernels.

The pueblos had irrigated agriculture, but the settlers expanded irrigation into a network of *acequias*, or irrigation ditches. The main ditch, the *acequia madre*, siphoned water from the Rio Grande several miles above the villa and carried it to tributary ditches that ran to individual fields. They used the ditches for drinking water, bathing, laundry and livestock water.

The horses, cattle and *churro* sheep the Spanish brought adjusted well to the Southwest and provided an economic base. Sheep in particular were a staple. Not only did they provide food, but their wool could be sheared, carded and made into yarn and then woven. And they were difficult for raiding Navajos and Apaches to stampede.

Sheep ranchers used the *partido* system, in which a shepherd (*partidario*) contracted with the owner to pasture and herd the sheep in exchange for a share of the increase. He could provide for his family from the herd but also had to make up for losses to Indians and predators. By the mid-1700s, a herd might have 1,200 sheep and 100 cows. By 1800 the herds numbered in the thousands. There was little cash, so sheep became the unit of exchange, at a rate of one or two pesos per animal.

By 1773 the farms were yielding good crops of corn, wheat, chile, squash, beans, onions and the native tobacco (which they smoked in cornhusk cigarettes). There were also excellent vineyards and orchards of peaches, apricots, plums and apples. The residents raised enough for their own use and traded any surplus at nearby pueblos or in Santa Fe. The economy was based on barter because money was scarce.

Trade

The Crown prohibited trade outside the Spanish realm, but settlers maintained regular trade with the Apaches, even though they were often at war, and this love-hate relationship came to be accepted. In fact, some Spanish settlers carried loads of trade goods out to the plains and searched out the nomadic Apaches. The Spanish governor attempted unsuccessfully to regulate this trade.

Albuquerque was on the 1,500-mile route between Chihuahua and Santa Fe called El Camino Real de Tierra Adentro, or the Royal Road to the Interior. For 300 years it was the lifeline between the frontier and Mexico, and over it passed governors, settlers, priests, and the occasional merchant. It also became a conduit for language, culture, religion and trade.

Merchants brought scarce manufactured goods to New Mexico and returned with piñon nuts, buckskin and woven cloth. Every year in November, a convoy left for Mexico. Anyone with goods to sell would rendezvous in Alburquerque, and a military escort rode with them down El Camino Real. Every year at that time the village plaza must have been a lively scene. Alburquerque also contributed some of its militia members to serve as guards.

Albuquerque’s leading commodity then was textiles, and weaving was as important as farming and stock raising to the village economy. By 1790 there were 47 weavers, 25 carders and 15 spinners. Cobblers formed a smaller cottage industry, selling New Mexican footware.

But the merchants in Chihuahua knew they had captive buyers, and the Albuquerque traders didn't fare well in this exchange. The Spanish government also tightly controlled the export of products, grain and cattle because they feared the New Mexicans wouldn't have enough to sustain them. The result was to depress the local economy.

Daily Fare

Their diet included beef, mutton, pork, fowl and game. They traded jerked buffalo meat from Plains Apaches. They ate fruit in season and dried it for later use. Corn appeared in everything from soup to dessert. Beans were eaten with every meal. Only the rich could afford sugar, coffee and chocolate, but everyone grew chile. Cooking was done in open fireplaces or *hornos*, outdoor ovens. And they enjoyed wine made from local grapes, as well as brandies made from peaches and apricots.

Role of the Church

At its founding, Albuquerque had a small church, later named San Felipe de Neri Church, which recorded its first baptism on June 21, 1706.

The Spanish Colonial period was difficult for the people. They lived with the fear of Indian attacks, poverty, and hardships. But through all this they were guided by their great faith. The church provided a road map for the settlers' lives, starting with baptism of infants. Throughout all the life cycles, there were numerous occasions when the settlers would ask for and receive special blessings. For example, six weeks after a woman had given birth she would present herself at the door of the church for a special blessing. And before starting a journey, people asked for a blessing for a safe trip. On their return, they would go to church and give thanks for their safe travel.

Celebrations and fiestas always began at the church, usually with a procession. The settlers' homes displayed *bultos* (carved wooden figures) and *retablos* (paintings) of saints and other religious articles. The people looked to the church for guidance, forgiveness, and council.

Education and Training

In early Albuquerque, children received a great deal of training in the skills they would need from family members. Priests provided the only formal education, teaching some children, as well as Indian people, to read and write.

Along with skills needed to farm and keep livestock, people learned blacksmithing, metalworking, woodworking and furniture making. Another skill, which would become one of New Mexico's most profitable industries, was weaving. Families carded and spun wool and wove textiles on hand-made looms. Sheep and wool became so prized that during the Pueblo Revolt of 1680, rebellious Pueblo people herded the sheep away rather than destroying them, as they did nearly everything else left by fleeing Spaniards. Subsequently, Spanish descendents and Native Americans alike developed their own textile traditions.

Blacksmithing and metalworking were extremely important to settlers, as everyone needed tools, implements, cooking utensils, bits, bridles and weapons. They also fashioned religious items for Mass and crafted jewelry. Because iron and metals were scarce, objects were often melted down and reworked into other necessary items.

Health Care

Because medical doctors were almost nonexistent during the Spanish Colonial period, the health-care providers were members of the community. *Curanderas* (female healers) or *curanderos* (male healers) had a gift for healing. They cared for expectant mothers, the injured and the sick. Often skills were handed down through generations within a family, while others served as apprentices to non-related healers.

Many women healers specialized. A very important specialty was being a *partera* (midwife) in home deliveries. It was not unusual for a special bond to develop between the mother in labor and the *partera*.

Sobadoras were similar to chiropractors of today. They healed with massage, manipulation and adjustments of the spinal column. If someone fell off a horse and sprained a limb or twisted his back, he went to the sobadora for relief. If someone was suffering headaches or great stress, a massage might help ease the pain. All healers had the respect of the community.

What did curanderas or curanderos use for medication? They had access to some imported medicines that arrived on El Camino Real. *Alhucema* (lavender), used for headaches and stomach conditions, was imported from Spain; European tansy mustard was employed as a remedy for cramps and fevers.

They also used native plants. These herbalists, or *herbolarias* , knew the power of each distinct plant. It might be the root, the stem, the leaves, the seed or the flower that brought relief to the sick. Most of these herbs were gathered and hung from the healers' vigas to dry before being stored. When needed, they might be crushed, boiled and drunk as a tea, while other plants were eaten fresh. Still other plants were applied to the sick or injured directly in a poultice.

The native healers were no match for some diseases. Children died from measles, and the common cold and respiratory diseases were widespread. People took their water from irrigation ditches and sometimes contracted dysentery and typhoid.

The most deadly disease, however, was smallpox. Outbreaks claimed lives about every ten years. In 1805, 87 percent of 6,930 Albuquerque residents had contracted smallpox at some time, and many faces carried scars from the disease. Young women sometimes attempted to mask their scars by dusting flour on their faces.

After a cure was discovered and a vaccine distributed, Dr. Cristóbal Larrañaga, the military surgeon from Santa Fe, began vaccinating Albuquerque children in the early 1800s. (Surviving adults were immune.)

Homes

Homes and buildings were adequate for the time and place but far from luxurious. Structures were single level and made of adobe because clay, sand, straw and sunlight were readily available.

The homes were small; one-room houses were not uncommon. Later, they might add one room at a time. Each room had its own entrance from the outside; inner doors were rare. Windows were small and built high on the wall, as much for defense against Indian attacks as light. Because glass was not available, they covered windows with skins when the weather was bad. The floors were earthen and often were soaked with animal blood for stability. Later, brick was also used.

Bathrooms were outdoors. There were no bedrooms. A *colchon*, (a bedroll of buffalo hide or sheepskin or mattress stuffed with wool) was rolled up and placed along the wall, where it provided seating during the day and was unrolled for sleeping at night. Fabric nailed to walls kept sitters from getting whitewash on their clothing.

One room served many purposes. It was the living room, the kitchen and the bedroom. Food was prepared and eaten in the same room. The room was not cluttered with furniture that was not an absolute necessity. A corner fireplace was used both to heat the house and for cooking. Shelves held necessary items or food. Adobe benches built along the walls were common.

Domestic help wasn't hard to come by. In those days, Navajos, Apaches and Hispanic settlers made war on each other, and captives became slaves.

The more affluent settlers eventually had larger homes with furniture imported from Spain or Mexico. Some simple furniture was made locally. Pine was the wood of choice because of its availability. In the beginning designs were simple and straight. As time went by, craftsmen began to carve designs on cupboards, chairs and other furniture.

Settlers made their own adobes. Using a wooden frame or mold that was open at the top and bottom, they produced adobes 18 inches by 10 inches by 5 inches. Then they removed the frames and left adobes on the ground to dry. They used stones for the foundation. Thick mud was used to bind the adobes to each other and to the foundation.

With the walls up, the roof was next. Vigas (beams) were placed about 24 inches apart across the walls. They started by using the larger logs at one end and working down to the smaller ones. This gave the roof a slight angle, necessary to make sure that the water would drain from the flat roof. The ceiling was built by placing straight branches, called *latías*, across the beams. These were then overlaid with reeds and followed by a cap of several inches of dirt. (Little has changed in building an adobe home other than using concrete for the foundation and boards to cover the vigas.)

Both men and women worked to build their homes. The men usually did the heaviest work while the women plastered the walls inside and out, using clay.

Over time, rooms of larger houses were built around a courtyard, or *placita*. At the back of the house was a corral. For defense, the whole complex was enclosed within high adobe walls with no windows or doors and only two sets of gates. The front gate opened to a *zaguán*, a covered passage wide enough to allow a wagon into the placita. This allowed a wagon under attack to drive right into the enclosure. The rear gate opened to the corral.

Sometimes several families built a line of rooms and connected them around a plaza to form a fortified community.

After the railroad arrived and began bringing in new materials, the natives adapted, adding a brick coping at the top of an adobe wall, which kept it from eroding; using commercial plaster, which lasted longer than adobe; acquiring doors and windows from sawmills.

Security and Military

During Albuquerque's early years, the settlers were not safe from Indian raids. Originally, 10 soldiers were assigned to the villa.

The soldiers probably wore partial body armor and helmets and carried harquebuses, crossbows and swords. The harquebus, a fire-lock gun, gave them a greater range than the Indians' bow and arrow, but the firing mechanism was fragile and clumsy. Riding unfamiliar beasts, horses, which were also armored, they must have presented quite a spectacle to the first Pueblo people who greeted them.

Attacks by Apache and Navajo raiders continued; later Comanche attacks began. Because the Villa of Albuquerque in this period was actually a string of farms covering a distance of two and a-half miles along the river, defense proved nearly impossible.

In 1708, the governor moved Albuquerque's 10 soldiers to Santa Fe, which left the settlers to protect themselves. They organized a citizen militia, and Pueblo men often joined them. Albuquerque became a staging point for campaigns against hostile Indians in the area. The church square was a parade ground where volunteers and soldiers could muster. Volunteers provided their own weapons, horses and mules and typically wore a padded leather vest.

In 1778, Don Juan Bautista de Anza was appointed governor. He reorganized the Spanish troops, including the citizens. He reduced the worst attacks by carefully assigning his soldiers. In 1779 de Anza organized an army of more than 600 men and defeated the Comanches in eastern Colorado. This reduced the Comanche threat, but because the military was stationed in Santa Fe, Alburquerque was still not a safe place.

Transportation

The horse initially gave Spaniards an advantage over others in the New World. But not everybody owned a horse. Many arrived here by *carro* or by foot. *Carros* were four-wheeled wagons commercially made for traveling long distances from central Mexico to the northernmost frontiers of New Mexico.

About every three years, supply caravans made use of carros coming to New Mexico. The *carreta* was a smaller, two-wheeled version of the carro, used for travel within New Mexico. It was made entirely of wood – even the wheels.

Communication

Communication between Mexico and Europe was often faster and more frequent than news between Mexico City and New Mexico. As a result, New Mexico was an isolated place. However, communication within the province took place along trails. Scouts and traders exchanged goods and conveyed news. They also communicated by marking on rocks and trees.

For Spaniards, the most important form of communication was the written word. They were meticulous at recording everything they did. Scribes who documented everything went along on early colonizing expeditions. Many wrote in personal journals and sent letters back home. There were also records of expeditions that included inventories of every person present and descriptions of the towns and the area.

Also important were the cartographers who accompanied many expeditions. Maps communicated where they went, and where they were going. A map could also illustrate lands that, until then, were unknown.

Arts

Pueblo Indian people taught Spanish settlers to paint on hides, and these paintings represent some of the earliest Spanish paintings done in New Mexico. Of 70 hide paintings found, all but two have religious subjects.

Most early art, particularly painting, was created for churches, missions and home altars. The earliest churches, based on Franciscan missions in Mexico, were initially decorated with wall paintings and hide paintings.

Altar screens and *retablos* replaced these as they became more readily available in the 1700s and 1800s, when religious art was brought up from Mexico. Altar screens were built in tiers and could be taken apart and reassembled for easy transport. A *retablo* is a realistic image, usually of angels and saints, carved and painted on a rectangular board.

By 1750 the distinctive New Mexican artists called *santeros* had emerged. Using native pine and cottonwood, they created *bultos* (a small statue) and *retablos*.

In the fall when the wheat had been threshed, New Mexicans had straw to use in making encrusted straw art. Wooden crosses and boxes were painted in colors of black, scarlet, or blue then with a pine varnish as glue, small pieces of flattened straw were applied in decorative patterns then sealed with a coating of the same pine varnish.

When tin cans became readily available, tin work became popular as an art form. Beautiful handmade tin work framed mirrors and paintings. Tin work, also used in lighting fixtures, was versatile as well as decorative.

Resources:

Salaz Marquez, Ruben, New Mexico, A Brief Multi-History.

Salaz Marquez, Ruben. Epic of the Greater Southwest, New Mexico, Texas, California, Arizona, Oklahoma, Colorado, Utah , Nevada.

Sánchez, Joseph. The Rio Abajo Frontier, 1540-1692.

Udall, Stuart L. Majestic Journey: Coronado’s Inland Empire.

Sisneros, Jose. Riders Across The Centuries.

New Mexico Historical Review, April 1927.

Simmons, Marc. Albuquerque: A Narrative History.

Lesson Plan: Hispanic Life in Albuquerque, 1706-1848

By Bianca Belmonte Sapien

Objectives

(From APS District Core Curriculum Scope and Sequence, Seventh Grade)

History and Culture
Learners will exhibit an understanding of the ways human beings view themselves in and over time; and describe how language, literature, the arts, architecture, other artifacts, traditions, beliefs, values, religion, economics, government, technology and behaviors contribute to the development of New Mexico.

Geography
Learners will exhibit an understanding of the connections and relationships among people, places, cultures, and physical environments; and construct and use mental maps to organize information about people, places, and environments in a spatial context.

Economics
Learners will exhibit an understanding of how people organize for the production, distribution, and consumptions of goods and services in a global society; and relate the role of transportation, communication, manufacturing, natural resources, and technology to the economic development of New Mexico.

Civic Understanding
Learners will illustrate how roles, status, and social class affect the interactions of individuals and social groups; identify and describe the role of institutions such as government, education, religion, family and business in furthering both continuity and change; and describe ways in which each person demonstrates responsibility in homes, families, schools, the community, and the world.

State Standards and Benchmarks

History

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 I-A—New Mexico:

- Explore and explain how people and events have influenced the development of New Mexico up to the present day.
- 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).
- Explain the impact of New Mexico on the development of the American West up to the present, to include: availability of land (e.g., individuals, governments, railroads, tribal), government land grants and 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.

Geography

Content Standard II: Students understand how physical, natural, and cultural processes influence where people live, the ways in which people live, and how societies interact with one another and their environments.

5-8 Benchmark II-C:

- Understand how human behavior impacts human-made and natural environments, recognizes past and present results, and predicts potential changes.
- Interpret and analyze geographic information obtained from a variety of sources (e.g., maps, directly witnessed and surveillanced photographic and digital data, symbolic representations [e.g., graphs, charts, diagrams, tables], personal documents, and interviews).

Economics

Content Standard IV: Students understand basic economic principles and use economic reasoning skills to analyze the impact of economic systems (including the market economy) on individuals, families, businesses, communities, and governments.

5-8 Benchmark IV-A:

- Explain and describe how individuals, households, businesses, governments, and societies make decisions, are influenced by incentives (economic as well as intrinsic) and the availability and use of scarce resources, and that their choices involve costs and varying ways of allocating.
- Explain how economic and intrinsic incentives influence how individuals, households, businesses, governments, and societies allocate and use their scarce resources.
- Explain why cooperation can yield higher benefits.

Setting

Classroom, enhanced by library-media center, field trip.

Resources:

(Ask librarian to compile an Albuquerque Tricentennial bookcart)
(See, use materials from Making History: Books for the Albuquerque Tricentennial)

Chavez, John R. The Lost Land: The Chicano Image of the Southwest.

City of Albuquerque. Albuquerque Tercentennial 1706-2006. The Official Guide. 2005

Gutierrez, Ramon A. When Jesus Came, the Corn Mothers Went Away; Marriage, Sexuality and Power in New Mexico, 1500-1846.

Hill, Gene. Americans All, Americanos Todos: A Bilingual History of The Contributions of Hispanics to The Development of America. 1997

Novas, Himilce. Everything you Need to Know about Latino History.

Roberts, Calvin A. and Susan A Roberts. A History of New Mexico.

Schlissel, Lillian, Vicki L. Ruiz and Janice Monk, Eds. Western Women Their Land, Their Lives.

Simmons, Marc. Coronado's Land: Essays on Daily life in Colonial New Mexico.

Weber, David J. Ed. Foreigners In Their Native Land: Historical Roots of the Mexican Americans.

Student Materials

Lined paper; pencils, pens
Blank card stock 5X8 (to make postcards)
White butcher paper (roll or 10 five-foot-square pieces)
Tape, crayons or colored pencils, markers, rulers
Chalkboard or whiteboard (chalk or dry erase pens)

Setup & Preparation

Teacher will introduce the unit of study by teaching the students about word roots and meanings. First, ask the students if they know how many wheels are on a tricycle. Write the word "tri" on the board. Then ask students if they know what a century is? Write the word part "-cen-" on the board. Then put the two parts together and see if they have heard or seen the word "tricentennial" and have them guess the meaning. Follow with an explanation that the word (tercentennial or tricentennial) means the 300th year anniversary or celebration.

Students may say it is Albuquerque's tricentennial and explain that this is the reason we are going to learn about what daily Hispanic life was like back when Albuquerque was founded.

What year was that? 2006 – 300 = 1706. 1848 was the year that the Treaty of Guadalupe Hidalgo made New Mexico a U.S. Territory. Explain that after an overview, students will research three Hispanic life roles and then select one that they will assume and write a postcard from that person's point of view living in the time 1706-1845.

An overview may be conducted by having students read, highlight, or listen to teacher-selected information from the Resource Guide history background. Remind students that they are trying to grasp what Hispanic daily life in Albuquerque was like. After providing information from the text, the teacher should give an exit quiz where students list 5 important things they remember from the reading. (Students could also visit the Museum of Albuquerque to see a sample home and ways of life.) The reading or field trip could be a homework assignment and the five important things found by students could be discussed in a large or small group setting.

The seventh grade textbook "A History of New Mexico" by Roberts and Roberts, Chapter 8, "Life in New Mexico's Hispanic Communities" on pp. 157-178 is also a great starting point for students to see a variety of aspects of daily life.

Learning activities

Day 1-2

After the overview, teacher places materials in central location for students to access. (It could be in the library-media center or in your own room.)

Students use various teacher- provided materials to take notes on three different roles in Hispanic daily life (e.g. soldier, priest, homemaker, *alcalde*, viceroy, governor, sheepherder, child, farmer, slave). Students should take at least a half page of notes on each role. Clearly label the top of the page with the role. Each role should be on a separate piece of paper. Their notes should include (at the bottom of the page) the title, author, page number and publication date of the resource. Notes could be in any format (e.g. bullets, paragraphs, sentences). Inform students that they should take enough notes so that they can share the information in a small group or pair format at a later time.

Information could be specific about one aspect of the person's daily chores or could be random aspects of several things the person would be responsible for.

Teacher should circulate the room after giving individuals a chance to select their materials. Check student work. Ask guiding questions: What role are you researching? What kinds of things did this person do in the morning, noon and night? How did they live, eat, sleep, and entertain?

Collect notes and review which roles the students selected to research. Make a master list.

Day 3

Break the class into groups of no more than 5 students with similar role selections. Give each group a large piece of butcher paper (5 foot square). Students will compile their research through idea webs. In the center they will put the words "Hispanic Daily Life." The spokes of the web would be the roles (soldiers, homemakers, etc.). Students should see how daily life is connected or different and draw spokes demonstrating the connections. Students will also see the details that other students found.

Day 4-5

Post the webs around the room. Give students 5 to10 minutes to read other groups' webs. Ask students to acknowledge similarities or differences in Hispanic daily life. Prompt: Can anyone point out interdependence? Can anyone explain how these roles are similar or different to today's family life?

Students will then select one of the roles and write a postcard as if they lived in this life and time. Postcards may be written to a friend living in Spain, another city or to a relative. The front of the postcard should have a symbol, picture or words that represent Hispanic daily life in Albuquerque or the role selected (e.g. sheep and a field for the life of a sheepherder). The back should be filled with at least 10 lines of text and at least five facts.

Assessment

Teacher can award points or +/- for introduction and lesson overview exit notes.
Teacher observation of research.
Teacher can award points or +/- for research notes.

Students can evaluate how well they participated in creating webs.

0= no participation, 1=shared notes 2= shared notes and helped draw discussion points for web review.

Postcard Rubric:
0=did nothing
1= Fewer than 2 facts, grammar errors, drawing did not fill 1/3 page
2=Less than five facts, grammar errors, ½ page drawing
3=Proficient: Salutations, date, stamp, address included, ½ page written, five facts evident, grammar and spelling appropriate
4= Exemplary: All of 3 plus information beyond 5 facts, drawing and words on front of postcard.

Extension

(Optional activities related to the original activity that may be used to expand the original idea)

Read and complete activities from Chapter 8, Roberts and Roberts *History of New Mexico.* Compare to life today. Compare and contrast to life in Spain at the same time. Discuss, compare and contrast to the life of Native peoples at the same time.

Web sites, videos, field trips, guest speakers

See Albuquerque Public Library List, Making History: Books for the Albuquerque Tricentennial

The New Mexico Humanities Council has Chautauqua speakers who dress up and "act the part" of historical figures. Some require a fee. See their website at www.nmeh.org. The Tricentennial Committee also has a speakers' bureau. See www.albuquerque300.org

See the Southwest Hispanic Research Institute and the Center for Southwest Research at UNM.

Rio Grande Valley Public Library, www.cabq.gov/library. Click on More about Library Tricentennial Events, then Tricentennial Speakers. Many of these speakers are available for schools at no charge.

El Camino Real and the Santa Fe Trail

Trade Routes

In 1598 Don Juan de Oñate y Salazar set out from Santa Barbara, near present-day Chihuahua, Mexico with 600 settlers. Their destination was *el tierra adentro*, the interior land.

On April 30, Oñate claimed the region for Spain before crossing the Rio Grande near present-day El Paso. After 3 months they reached the Indian Pueblo they named San Juan. It was the first European community west of the Mississippi.

The 1,500-mile route Oñate traversed between Chihuahua and Santa Fe came to be called El Camino Real de Tierra Adentro, or the Royal Road to the Interior. For 300 years it was the lifeline between the frontier and Mexico, and over it passed governors, settlers, priests, and the occasional merchant. It also became a conduit for language, culture, religion and trade.

Soldiers and some settlers arrived here by horse, but some came by *carro* or by foot. *Carros* were four-wheeled wagons commercially made for traveling long distances from central Mexico to the northernmost frontiers of New Mexico. Supply caravans also made use of carros to transport goods to New Mexico. The *carreta* was a smaller, two-wheeled version of the carro, used for travel within New Mexico. It was made entirely of wood – even the wheels.

Merchants brought scarce manufactured goods to New Mexico and returned with piñon nuts, buckskin and woven cloth. When Albuquerque was founded in 1706, its location on the road contributed to its survival. The village became a popular gathering place along El Camino and provided a way to export the village's wool and textiles, Albuquerque's leading commodities.

Every November, by order of the governor, a convoy left for Mexico. Anyone with goods to sell would rendezvous in Albuquerque, and a military escort rode with them down El Camino Real. The merchants in Chihuahua knew they had captive buyers, and Albuquerque buyers didn't fare well; manufactured articles were scarce and the prices exorbitant.

After Mexico won its independence from Spain in 1821, the northern portion of the trail became the Chihuahua Trail.

One of the first developments after independence was an increase in trade. Americans had long wanted to trade with Santa Fe and the Spanish province of New Mexico, but Spain wouldn't allow it.

That year William Becknell, motivated by his debts in Franklin, Missouri, departed on a trading expedition. He intended to trade with trappers and Indians. On the way, he and his companions encountered Spanish dragoons. Expecting to be jailed, he learned instead that Mexico was now free of Spain; the soldiers encouraged Becknell to go to Santa Fe instead.

There he – and his trade goods – were warmly received. His profits inspired him to try again. A year later, with three ox-drawn wagons, Becknell forged a shortcut, called the Cimarron Cutoff. He and his men nearly died on the arid route, but it became the

most popular route between Independence, Missouri and Santa Fe. He was again successful, even selling his wagons at a steep profit.

So began the Santa Fe Trail. New Mexico was now connected to the outside world, and it was open for business. The trail would carry hundreds of traders and prospectors into New Mexico but not many settlers. It came to be called, appropriately, "The Great Commerce Road."

When Santa Fe gained access to trade, so did Albuquerque, as goods now moved south on El Camino Real and into Albuquerque.

One indicator of the increase in trade is a census taken in 1827. Traders in New Mexico numbered 93, where previously there had been few. Albuquerque's population grew to 2,547, up from 2,302 in 1821. Some of Albuquerque's land barons became traders, adding greatly to their wealth.

By 1830 trade was booming. Some wagons left the Santa Fe Trail even before reaching Santa Fe and rolled through Tijeras Canyon to Albuquerque. And with better access to Mexico, merchants often sent their trains south on El Camino without unloading in Santa Fe.

Despite its use, the trail didn't guarantee an easy journey. Travelers were at the mercy of hostile Indians, prairie fires, flooding rivers, blizzards, heat and thirst.

When Mexico ceded New Mexico to the United States in 1846, the Santa Fe Trail linked the United States with its new territory. The government built a string of forts to protect the trail, including Fort Union in 1851 in northeastern New Mexico.

The army established a supply post in Albuquerque, which was good for the local economy because it needed produce, meat and hay, which locals gladly supplied. Guadalupe Trail in the North Valley is named for land-owner Guadalupe Gutiérrez, who drove cattle and sheep along this trail from the North Valley to the army post.

Again traffic on the trail increased. An indication of volume is the record in 1858 of 1,827 wagons carrying $3.5 million in goods – including housewares, drugs, groceries, whiskey, hardware and ammunition. In time freight included furniture, musical instruments and heavy machinery.

Beginning in 1849 with the first stage line, the trail also hauled passengers, bumping along in stagecoaches. Fare from Kansas City to Santa Fe cost about $200 and included 40 pounds of baggage and two blankets. The trip took two bone-jarring weeks.

When the railroad chugged into Albuquerque in 1880, El Camino and the Santa Fe Trail became obsolete.

Traces of the Santa Fe Trail can still be seen in northeastern New Mexico and near Fort Union. History buffs spend their vacations visiting sites along the trail and even have their own organization, the Santa Fe Trail Association. Congress declared the trail a National Historic Trail in 1987.

Traces of El Camino are also visible. In modern times U.S. 85 and, later, I-25 paralleled the old route. It's still the oldest European road in North America. Today El Camino Real is a National Scenic and Historic Byway, stretching between El Paso and San Juan Pueblo.

Albuquerque's original access to the eastern plains through Tijeras Canyon would serve it well when the federal government was choosing highway routes, first for Route 66 and later for I-40.

Resources:

Sánchez, Joseph. The Rio Abajo Frontier, 1540-1692.

Simmons, Marc. Albuquerque: A Narrative History.

Lesson Plan: Trade Routes

By Randy Pence

Objective: The student will learn about the trade routes, both past and present, that have made Albuquerque the city it is today.

New Mexico Standards: Strand, History (Social Studies)

Benchmark: I-D Research Historical Events.

Time Frame: Five school days

Materials Needed:

- Maps of the Southwest, including those that show prehistoric trade routes, historic trails, railroad routes, automobile highways, airline routes.
- Blank paper, art supplies, writing supplies
- Diorama supplies

Present background information: How does the lesson relate Albuquerque's history to today?

The importance of the various trails, roads, and railroads led to the growth in trade and population that allowed Albuquerque to become the city it is today. The patterns of trade routes laid out the pattern by which Albuquerque grew. The routes also led to Albuquerque's economic growth.

Discussion Questions

What was the most important trade route to Albuquerque?

This would be the Santa Fe Trail, which connected Albuquerque to the outside world for the first time and made manufactured goods more available.

What were the original north-south and east-west routes in the Albuquerque area?

The major north-south route was defined by the Rio Grande, which provided an easily followed road between Santa Fe and El Paso to the south. The major east-west route was dictated by the canyon separating the Sandia and Manzano mountains, which is now called Tijeras Canyon. These routes have been traveled for several thousand years.

Where did the Camino Real, the Royal Road, begin and where did it end?

The Camino Real began in Mexico City and ended in Santa Fe. Albuquerque was a main stop on this road.

What was the importance of the Santa Fe Trail?

The Santa Fe Trail began with one Missouri trader bringing his goods to the Spanish town of Santa Fe after Mexico won its independence from Spain. Because Mexico allowed outside trade, the Santa Fe Trail became a popular trade route between

the New Mexico, then governed by Mexico, and the United States. After New Mexico became a U.S. Territory, the trail was the primarily link with the United States.

Set Up

The following discussions would be helpful:

- Why would roads and trails help a city to grow?
- Does the ease of transportation help to determine where you go on vacation? Why or why not?
- How hard do you think it would have been to travel by wagon train, by horseback, by *carro*?
- What do you think the next major type of transportation will be? How will Albuquerque fit into this type of traveling?

Learning Activities

Day 1

Have on hand first-person accounts of people traveling by various means of transportation in the West. Read some of these accounts to the class. Begin the discussion by asking students if any have ever taken long road trips, and if so, what were some of the hardships. Continue the discussion by asking the class to imagine traveling long distances on foot, by horseback, in a wagon train, by steam locomotive, or by car over unpaved roads.

Day 2

Provide maps of the United States, the Southwest, and New Mexico. With a highlighter, trace the major trading routes going through Albuquerque on one of the maps (Camino Real, Santa Fe Trail, Santa Fe Railroad, Route 66, etc.) Finish up yesterday's discussion, using the maps as aids to show problems crossing rivers, mountains, and deserts. The students are then directed to write a journal entry as if they were traveling along one of the trade routes using a contemporary mode of transportation (walking, horseback, wagon train, etc.), describing a typical traveling day.

Day 3-4

Students are to divide into four groups. Each group is assigned one method of transportation used on one of the main trade routes (horseback, *carro,* wagon train, steam locomotive, early automobile). They are then assigned a trade route that corresponds with that method of transport (Camino Real, Santa Fe Trail, Santa Fe Railroad right of way, Route 66).

Each team is then given a map of their particular trail, with the city in which they are to begin their journey (Mexico City; Franklin, Missouri; Chihuahua; Trinidad, Colorado). They are then to make a board game based on the hardships of that trail and mode of travel, with the objective of getting trade goods from the city of origin to Albuquerque. A fairly detailed rubric should accompany this assignment, with each rubric being tailored to the individual class.

Day 5

Each group is to finish up their game and present it to the rest of the class. After presentations, the class remains divided into the four groups, with each group taking the time to play the games devised by the other three.

Extension

- Students can build a diorama based on the journal entry from Day 2.
- Students can act out their journal entry, even to the point of wearing period clothing.
- Students can put together an advertising campaign to sell their game, using historical information to come up with appropriate art work and advertising copy.

Resources:

Camino Real:
www.nmmonuments.org/about.php?_instid=ECR
www.our-new-mexico.com/travelguide/daytrips/camino.shtml
www.byways.org/browse/byways/2065/travel.html
www.milebymile.com/main/United_States/New_Mexico/
byway/El_Camin0_Real_hyphen_New_Mexico.html

Santa Fe Trail
www.byways.org/browse/byways/2287
www.ku.edu/heritage/researchsft/
www.stjohns.net/santafetrail/
sangres.com/history/santafetrailo1.htm

Railroad
www.nmrhs.org/
www.wheelsmuseum.org
www.atsfry.com/EASTERNARCHIVE/PHOTO/albuquer.htm
www.atsfrr.com/links/atsf/history/htm

Route 66
www.rt66nm.org
www.dotphoto.com/go.asp?L=mpottez8&P=&AID=338718&6=y
www.gerordell.com/rickwalkerP1/route66.htm
www.cabq.gov/aes/s2p2hist.html

Ownership and Settlement in Early Albuquerque
Land Grants

Native people and Europeans had vastly different outlooks on land ownership. Native people did not "own" land. They believed that the land belonged to their creator. After Spaniards arrived in New Mexico in 1540, they introduced the concept of land ownership.

The Spanish king or his representatives conveyed land to individuals, groups and towns through a system of land grants, or *mercedes*, in order to promote settlement on the frontier. Spanish authorities used the system in Florida, Texas, Arizona and California, but the oldest land grants are in New Mexico. There were more than 150 community land grants totaling 9.3 million acres awarded by first the Spanish and then the Mexican governments.

There were two kinds of grants – the private grant given to an individual, who was required to live on the land and improve it for four years before receiving title, and the grant to settlers for a new town. Members of the community grant could own a small piece of farmland along an irrigation ditch, but most of the land was held in common for grazing, wood cutting or other uses.

In New Mexico, land grants were issued to encourage settlement, to reward patrons of the Spanish government and military officers, and to create a buffer zone between Indian tribes and populated areas.

Spain also issued land grants to several Indian Pueblo groups who had occupied the areas long before Spanish settlers arrived. In the Albuquerque area the Spanish governor awarded grants to the Pueblo de Sandia and the Pueblo de Isleta. The Spanish also enforced the Four Square League law, which required that the land surrounding an Indian pueblo be allotted to that pueblo for one league in each direction from the pueblo. No grant could cover this land. This set up political and ethnic boundaries for the Pueblo Indians and helped sustain Pueblo cultures.

In New Mexico, there were two types of Spanish and Mexican land grants – community land grants and individual land grants.

Community land grants were typically organized around a central plaza, and each settler received an individual allotment for a household and a tract of land to farm; common land was set aside for use by the entire community. Spanish and Mexican law usually authorized the local governor to make such community land grants, and the size of each grant was at the governor's discretion.

Individual land grants were made in the name of specific individuals. Again, the governor could also make this type of grant.

Exploration and Settlement

The first Europeans to see the Middle Rio Grande Valley were soldiers led by Captain Hernándo de Alvarado, who were the advance guard for the explorer Francisco Vázquez de Coronado. Alvarado named the mountains the Sierra Nevada and the river the Nuestra Señora. The valley that stretched between was called Tiguex.

In 1598 Don Juan de Oñate entered the northern frontier of Nuevo Mexico to claim the territory for Spain. By the early 1600s a number of Spanish *estancias* (farms or ranches) dotted the area of the Rio Grande Valley between Sandia and Isleta pueblos. Spanish settlement came to a halt in 1680 with the outbreak of the Pueblo Revolt, when Spanish colonists and missionaries were driven from New Mexico. Twelve years later, Don Diego de Vargas reclaimed New Mexico.

Atrisco Land Grant

Long before "La Villa de Alburquerque" ever appeared on a Spanish map, settlers were farming and raising livestock at Atrisco, on the western bank of the Rio Grande. Its agricultural tradition continued at least until World War II, when descendents of these settlers contributed wool to make army blankets.

In 1692, the same year Don Diego de Vargas reconquered New Mexico following the Pueblo Revolt, the government of Spain granted 41,533 acres to Don Fernando Duran y Chávez in a place where his father, Don Pedro, once lived. The grant was payment for Don Fernando's services during the *reconquista*, the reconquest. Known as the Atrisco Land Grant, it was the first of more than 300 such grants in the Province of Nuevo Mexico and the first in what would become the United States.

The name "Atrisco" stems from a Nahuatl word "atlixo," which translates as "surface of a body of water." (De Vargas had Nahuatl Indian auxiliaries with him.)

In 1703 the provincial government recognized the small community of Atrisco settlers as a town, which is why Atrisco celebrated its Tricentennial in 2003. Atrisco was administratively supervised first by Bernalillo and, after 1706, by Albuquerque. Settlers built their *haciendas* along the Rio Grande. Here they grazed sheep and cattle on the lush grasses in the valley. They cultivated and irrigated land to grow corn, chile, wheat, squash, alfalfa, and beans.

By 1760 more than 200 people were living in Atrisco. As land disputes proliferated, settlers asked for and got another 25,958 acres. Atrisco now extended from the Rio Grande to the Rio Puerco, testimony to the abundance of grasslands in those days. They established a second village, San Ignacio, on the Rio Puerco.

A census for 1790 tells us that Atrisco had 12 ranchers and seven farmers; Albuquerque had 57 farmers and just four ranchers. "Given the high proportion of ranchers at Atrisco, it would not be amiss to suppose that the place was regarded as a 'prestige suburb' of Albuquerque," wrote historian Marc Simmons in *Hispanic Albuquerque 1706-1846.* Among the Indian images in the city's Petroglyph National Monument are crosses and livestock brands left by Atrisco ranchers.

Growth and development in the area during the 1800s didn't affect Atrisco; in fact, construction of the railroad in 1880 provided new markets to the Atrisco cattle and sheep growers. Atrisco thrived.

Other Area Land Grants

After Tiwa Indian people abandoned Alameda Pueblo, the governor in 1710 made a large grant of the land to Captain Francisco Montes Vigil as a reward for military service. Two years later he sold the grant to Juan González. (His extensive corrals on the other side of the river gave the village of Corrales its name.) Smaller grants were given to families for ranchos. They became the village of Alameda.

In 1712 a 70,000-acre grant was made to Captain Diego Montoya. Soon after, it was conveyed to Elena Gallegos, the widow of Santiago Gurulé. (In colonial New Mexico women often took back their maiden names when they were widowed.) The grant stretched from the southern boundary of Sandia Pueblo to the northern boundary of the Villa de Alburquerque and from the river to the mountains. After her death, the grant passed to her son, and after he died it was parceled out among heirs. Like other grants, it was divided into strips so that each strip had access to the river. In time some of the lands were sold, but the portion on the East Mesa and in the mountains was held and used in common. Anyone owning the smallest portion of land could pasture a flock there.

In 1982 the City of Albuquerque acquired the remaining 7,761 acres in one of the most complex transactions in city history. The city then turned it over to the U.S. Forest Service to be included in Cibola National Forest.

The portion of the grant in the North Valley soon held a group of farms known as Ranchos de Albuquerque. Other small settlements took the names of their leading families – Los Griegos, Los Montoyas, Los Poblanos and Los Gallegos. (Los Poblanos was named for the Armijo family, who had come from Puebla in Mexico after 1811.)

Another grant was the one made in 1762 to 19 residents of the Cañon de Carnué (Tijeras Canyon). They established a village at the mouth of the canyon.

Treaty of Guadalupe Hidalgo

In 1846 the United States and Mexico fought a war over boundaries, which ended in 1848 with the Treaty of Guadalupe Hidalgo. In this treaty the United States agreed to recognize land grants made by the Spanish and Mexican governments in New Mexico and five other western states.

The United States established a system to establish land ownership. The U.S. Surveyor General in New Mexico in 1854 would begin reviewing claims and was to make recommendations to Congress. After Congressional confirmation, deeds would be issued. The Surveyor General soon faced a welter of difficulties.

Land tenure and ownership patterns were very different in Mexico and the United States.

The American system viewed the earth's surface as an imaginary grid laid out on a piece of paper, and cartography and surveying were used to identify physical features of a particular parcel. Land was defined by range, township and section numbers. Each section was one square mile. The exact measurements of parcels were identified and located on a map, land ownership was primarily in "fee simple," land costs were influenced by the open market, no restrictions on transferring land existed, and land titles were recorded in local government offices. Taken as a whole, this system facilitated the use of land as a commodity that could be bought and sold.

By contrast, the Mexican and Spanish systems were based on a rural, community-based system of land holding prevalent in medieval Europe and not on fee simple ownership. Land was viewed more in its relationship to the community, although parcels could be sold to individuals after the land had been used and inhabited for a certain number of years. Land was used primarily to provide sustenance to the local population, rather than as a commodity that could be exchanged or sold in a competitive market.

The Mexican system of land ownership was referred to as *usufruct*, "use the fruits of the land, but do not own the land." Land boundaries were defined using visual landmarks (such as rivers or mountain peaks) or the adjoining property.

Systems of Land Ownership

American	**Spanish/Mexican**
Defined by range, township, section number	Defined by landmarks
Viewed as a commodity to be purchased	"Use value" more important than land value
Fee simple – no restrictions on transfer	Restrictions on who could own lands
Impersonal sales	Usually sold/given to family member or neighbor
Meticulous record keeping, recording of deeds	Few records, if any; no deeds

Compounding these differences was the fact that New Mexicans didn't speak English and were unfamiliar with the U.S. legal system and American culture. The Mexican legal system, for example, had consisted largely of Spanish and Mexican codes and laws that were often interpreted according to local custom and usage. More formal tribunals and courts did not play the same role in México as they did in the United States in interpreting and deciding issues and cases.

The situation was ripe for fraud, and scoundrels of all kinds slipped in to take advantage of the confusion and make claims. In some instances unscrupulous attorneys demanded huge fees to clear titles; when clients couldn't pay, they accepted payment in land.

At one point a New York City millionaire financed his brother to claim unconfirmed land grants. White Americans rode in and claimed the long-established ranch of Manuel B. Otero, La Constancia, while its owner was away visiting. On learning of this intrusion, he and his men rode for the ranch. As they approached, a voice called from the house, "Halt, or we fire!" In an exchange of gunfire, both Otero and the financier's brother were shot. Otero survived and presumably held onto his land.

The Surveyor General found that many boundaries could no longer be found. Some grants overlapped. Owners had lost their original papers. Ultimately the Surveyor General and later the Court of Private Land Claims ruled on 282 grants totaling 34.6 million acres. It rejected most of the claims.

By 1903 most of the land grant claims were sorted out, but many of the common lands were either divided among heirs or returned to the public domain. For this reason the U.S. Forest Service now controls acreage from former land grants, and heirs are still asserting their rights to this land. Controversy over land ownership continues to this day.

Despite the erosion of land grants, New Mexico still has 22 land grants of 200,000 acres.

In 2004 the Legislature passed a law recognizing land grants as political subdivisions, which allows them to accept state and federal funds. The Cañon de Carnué Land Grant members plan to use government funding for planning and zoning, utilities and economic development on a planned commercial development on their 900 acres.

The Atrisco Land Grant today

In 1892, after the Territorial Legislature passed a law allowing community land grants to incorporate, the 225 Atrisco descendents acted, and the Town of Atrisco became

a community land grant corporation, which validated its two land grants in court two years later. It was one of the first incorporated towns in New Mexico in 1892.

Atrisco avoided the fate of other New Mexico land grants, although for many years there were disputes between heirs.

In 1967 the Legislature allowed the Atrisco Land Grant to form a private corporation, Westland Development Co., to take over common lands, and heirs of the original settlers received shares in the company. Shares can only be transferred to other heirs. Today Westland manages about 57,000 acres of Atrisco's land holdings.

For over 400 years the *Atrisqueños* (Atrisco Land Grantees) have witnessed a number of economic and political changes, from the Pueblo Revolt to New Mexico's independence from Spain, and New Mexico's inclusion as a territory of the United States in 1846. Today, the Atrisco Land Grant is one of the oldest continuous existing land grants in the United States and one of the only Spanish Colonial grants still presently owned by the heirs of the original settlers.

Resources:

Cline, Howard Frances. Spanish and Mexican Land Grants in New Mexico, 1689-1848.

Ebright, Malcolm. Land Grants and Lawsuits in Northern New Mexico.

Ebright, Malcolm. Spanish and Mexican Land Grants.

Simmons, Marc. Hispanic Albuquerque, 1706-1846.

Lesson Plan: Land Grants

By Randy Pence, Jimmy Carter Middle School

Objectives

The student will learn about land grants and how they have affected the history of Albuquerque.

New Mexico Standards: Strand History
(Social Studies) Benchmark I-D Research Historical Events

Time Frame: Five school days

Materials Needed: Poster paper, art supplies, map of the Albuquerque area, writing supplies, a copy of the Treaty of Guadalupe Hidalgo

Background

Teacher will present the history background through various questions and discussion:

- How the lesson relates to Albuquerque to the present.
- How current land issues revolve around ancient Spanish land grants
- How land grant history provides pride to Hispanic citizens who can trace their ancestry to certain grants
- How land grants have helped determine the present layout of Albuquerque
- Why certain land grants guarantee boundaries to neighboring Pueblos (Sandia and Isleta)

Questions

What are land grants?

Land grants were a way of encouraging settlement or rewarding an individual for service to the king.

Were all land grants the same?

No, there were two main types. One was the community land grant, made to establish towns and villages. The other was given to individuals, and became the basis for large family ranches.

Were land grants given only to Hispanic settlers?

No, land grants were also made to Indian pueblos.

Was the Spanish government the only one to grant land?

No, after Mexico won its independence from Spain in 1821, it also gave groups and individuals land grants.

Discuss the following questions with students:
Were grants were the best way of allocating land to settlers?

What kind of compensation should be given to people pushed off of their land?
Should land grants given out in the late 1600s be respected today?
Would it be a good idea to give out land grants today? Why or why not?

Procedures

Day 1: Class discussion

Begin discussion by talking about what is a fair and just way to divide land between individuals, especially individuals of different ethnic groups. Then explain what a land grant is and ask the class if they think it's a just method of land distribution. Finally, read the relevant portions of the Treaty of Guadalupe Hidalgo that guarantees the holding of land grants, and ask the students if this is fair, asking why or why not.

Days 2-3: Role playing

Students should be divided into three equal groups. Group 1 is then subdivided into two equal groups. Half of group one will then represent the Pueblo Indians, while the other half will represent their enemies, the Navajos. Group 2 will represent the Spanish, and Group 3 will represent the Americans. After this, allow each group to name a leader and spokesperson and decide how decisions will be made in each group.

While Groups 2 and 3 watch, the two subgroups of Group 1 (Pueblos and Navajos) will argue over land, with those representing the Navajos wanting to take over the Pueblo lands. Although all can take part in the negotiations, only the group's spokespersons can actually do the negotiating.

After ten minutes or so of discussions between the two Native American subgroups, bring in the Spanish group, which sees no difference between the two. However, the Spanish have the power, and they can give land grants to whomever they want to, both Spanish and Native American. Continue this discussion for the rest of Day 2.

Day 3

The teacher reviews the discussions of Day 2. After this is done, Group 3 is brought in. As the Americans have more power than either the Spanish or the Native Americans, ownership of land is up to them. Discussions among the three groups then develop around issues of just distribution of land.

If there is time at the end of Day 3, have a discussion about how the various groups felt about their losing or obtaining land.

Day 4

Each student is to write a short story, journal entry, or some other means of expressing how he or she felt as a member of the group they were in for the past two days. After everyone has had a chance to write a reflection, the class is asked to have volunteers read their writings. A discussion can end this day based upon the feelings brought up in the written entries.

Day 5

This day is to be conducted as Day 4 was, except that the student is to pick a group different than the one he or she was in, and write how it must have felt to be in that group. Again, discussion based on the writings could end this day.

Extensions

- Students could research the land grants that made up Albuquerque at the time of the American entry, and construct a 3-D map of what they found.
- Students could research the ultimate disposition of Spanish and Mexican land grants, and present their findings to the class.
- Students could research the 1960s movement of people like Reyes Tijerina and the attempt to recover old land grant rights.

Resources:

Cline, Howard Frances. Spanish and Mexican Land Grants in New Mexico, 1689-1848.

Ebright, Malcom. Land Grants and Lawsuits in Northern New Mexico.

Ebright, Malcom. Spanish and Mexican Land Grants.

Web Sites:

www.southwestbooks.org/ (despite its url, a land grant site)
scienceviews.com/indian/pnmculture.html

Organizations:

New Mexico Legislature, Land Grant Committee
legis.state.nm.us/lcs/committeedisplay.asp?CommCode=LGC

New Mexico Land Grant Forum
14 Old Chilili Road
Chilili, New Mexico 87059
505 281-4726

Cannons, Fire and Smoke
The Civil War in Albuquerque

For 36 days in 1862, Albuquerque became the Confederate capital of New Mexico. The town was also the scene of a half-hearted skirmish between Union and Confederate troops, following significant, bloody battles near Santa Fe and Socorro.

The Civil War opened in April 1861. A number of army officers serving in New Mexico at the time resigned their commissions to join the Confederate Army. They included Maj. James Longstreet, the quartermaster at Albuquerque; Col. William W. Loring, the ranking officer in the territory, and Col. Henry Hopkins Sibley, who had been stationed at Albuquerque and was then in command at Fort Union, New Mexico.

Maj. Edward R. S. Canby was left in charge. Promoted to colonel, he would lead the New Mexico forces in defending the territory. Sibley soon became a brigadier general, charged with annexing New Mexico for the Confederate States and gaining control of Colorado's gold mines.

Col. Canby was tall and clean shaven in a time when men favored whiskers. He stood very straight, which inspired confidence and respect among his men. He was a cautious, methodical man and a careful planner.

Gen. Sibley was his exact opposite. Sporting mutton-chop sideburns, a thick mustache and a curly chin beard, he looked the part of a general in his gray uniform with polished spurs and shining buttons while sitting erect on his horse. But he had trouble making decisions and often sought the advice of his junior officers. He had another weakness that would doom his New Mexico military campaign – he was too fond of rum and whiskey.

In September 1861 President Abraham Lincoln appointed Henry Connelly, of Peralta, as New Mexico's governor because he trusted Connelly to be loyal to the Union of the United States and because Connelly, who had lived here a long time, had the sympathy of native New Mexicans.

Just five days after his inauguration in Santa Fe, Gov. Connelly contacted each county in the territory urging the establishment of a militia, or home guard, for the defense of the territory against the enemy – Texans serving in the Confederate Army.

An overly confident Sibley in late January 1862 led an invasion force known as the Army of New Mexico, which consisted of three regiments of cavalry and a battery of artillery, from his headquarters in El Paso into the Territory of New Mexico. He had previously issued a proclamation to the people of New Mexico announcing his intention to take possession of the territory.

Canby anticipated just such an invasion and had tried to shore up his fighting forces with a volunteer infantry and cavalry paid and equipped by the U.S. government. Kit Carson commanded the First Regiment of New Mexico Volunteers, and Col. Miguel Pino and Lt. Col. Manuel Chaves commanded the second. Canby favored Hispanics in filling officers' ranks, believing it would attract more volunteers. Albuquerque became a rendezvous for recruits, who were sent south to Fort Craig, south of Socorro.

Texans had already seized Mesilla in southern New Mexico when Sibley pushed north along the Rio Grande. Sibley expected to meet Canby's forces at the federal stronghold at Fort Craig. Gov. Connelly had also arrived at Fort Craig. Canby assured the governor that he had 4,000 men, of whom 1,200 were regular army troops, and all were ready to fight.

The two sides met on a battleground outside the fort. In a hard-fought battle, known as the Battle of Valverde, the Union was holding the line. Then Col. Tom Green, standing in for Sibley who was drunk in his tent, ordered an all out charge straight at Union regulars. The ploy worked. Union soldiers broke and ran, which caused the volunteers, many of them poorly trained, to flee in panic. They took refuge in the fort. Sibley, not wanting to attack the fort, ordered his forces to continue their march north.

When Colonel Canby realized he was being bypassed, he became concerned for the military stores at the Albuquerque post. He sent his quartermaster, Maj. James Donaldson, to slip through the lines and warn the small forces in Albuquerque and Santa Fe to remove or destroy the supplies stored in both places.

The governor also slipped quietly out of Fort Craig and rode north. Concerned that Albuquerque was defenseless and would soon be taken by rebels, he advised ranchers and small farmers to gather their sheep and cattle and conceal them in the Manzano Mountains. The citizens of Albuquerque collected their valuables and took them out of town or buried them. Some Albuquerque families felt it was best to leave their homes and travel to Santa Fe. It was said around town that the Texans were *"mucho mas grande que los Americanos,"* or "a lot bigger than the Americans."

In Albuquerque Capt. Herbert M. Enos, the assistant quartermaster and ranking officer, moved as many supplies as possible from the military depot and destroyed the rest. Assigned to him were twelve regular soldiers and some local militiamen and volunteers led by Col. Francisco Perea.

On March 1 Enos sent six wagons to the Sandia Mountains to gather firewood. The wood cutters spotted the approaching enemy, and a rider galloped into the plaza with the news that the rebel army was only 20 miles away at Los Lunas. The captain quickly sent a rider to the wood-cutting soldiers in the mountains that they were to go east through Carnué Pass (Tijeras Canyon), to Galisteo and Santa Fe.

Back in Albuquerque Enos ordered some army wagons, already filled with arms and ammunition, to leave immediately for Santa Fe, guarded by a few regular soldiers. He also had the volunteer militia work past sunset loading the several remaining wagons with baggage, which he would lead north to Santa Fe. At dawn the lookout reported that the Confederate Army was south of town near what would become the South Valley neighborhood of Barelas. So at 6:30 a.m. on March 2, Enos ordered his men to burn the buildings that held military equipment, along with neighboring stables and corrals.

Watching from the shadows, some of the town's poor people scrambled into the burning buildings to carry away molasses, vinegar, soap, candles, a few saddles, carpenter's tools and even some office furniture, as Captain Enos led his caravan of loaded wagons out of town. The blazing fires and the choking smoke, along with the noise and excitement announced that the Civil War had come to Albuquerque.

The approaching Confederates saw three columns of smoke rising over the town with sinking spirits. They were cold and hungry, and their horses were thin from fast marching and short supplies of grass. They proceeded to occupy Albuquerque.

Within an hour of arriving, a rider from the small village of Cubero, west of Albuquerque, reported that four Confederate sympathizers led by Dr. F.E. Kavenaugh, a Cubero storekeeper, had demanded the immediate surrender of the supplies from a small Union outpost whose volunteer captain had no orders to follow. Four days later a badly needed supply wagon arrived.

When Sibley arrived after March 6, he moved into the adobe home of Rafael Armijo and his younger brother Manuel, which became his headquarters. The Armijo brothers, who were store owners, turned over $200,000 in goods. The Armijos weren't necessarily southern sympathizers. While most Albuquerque residents were Union partisans, many native New Mexicans were ambivalent about this war between states. New Mexico was not yet a state and had only been a territory of the United States for about 13 years. Seeing the easy capitulation of the Union in New Mexico, the Armijos aligned themselves with the side they expected to win. Their conclusion was premature.

The Confederates marched north, expecting to capture Fort Union. Unknown to them, Colorado volunteers, led by Maj. John Chivington , had hurried from Denver to shore up the thin Union forces in New Mexico and discourage an invasion of their state.

Lt. Col. Manuel Antonio Chaves, a seasoned member of New Mexico's militia, was asked to join the Confederates but chose to be loyal to the Union. He led a spy company into Santa Fe and informed Chivington of the rebel troop strength and their movement toward Glorieta Pass. On March 28 Chivington, reinforced by troops from Fort Union, engaged the Confederates in a hard battle. Sibley remained comfortably in Albuquerque.

In a flanking action the Union forces also slipped behind the Confederate lines, led by Manuel Chavez, and burned 61 wagons in Sibley's supply train. It was a decisive strategy. The Battle of Glorieta Pass was over. Without supplies the rebels had no hope of taking Fort Union.

Manuel Chaves is a little-known hero of the Battle of Glorieta Pass.

The Texas army retreated to Santa Fe and then to Albuquerque, where they commandeered Franz Huning's flour mill at what is now Laguna and Central. The mill was named, ironically, La Glorieta. On April 1, Canby, then at the small farming settlement of Barelas, south of what is now downtown, ordered four Union cannons to fire on Albuquerque. The colonel had decided to make a noisy "demonstration," as he called it – a show of strength by his small army. The cannons of the rebel army, located at the mill near present-day Old Town, returned fire.

The "Battle of Albuquerque" lasted several hours. It was only an artillery shelling, with no casualties. Maj. Thomas Duncan of the Union Army, struck in the head by a shell fragment, was the only one wounded. As the cannon balls flew back and forth, a worried group of citizens approached Canby and told him the Confederate Army would not allow the women and children who had remained in their homes to leave and find a safe refuge. Canby ordered his men to stop firing. The Battle of Albuquerque had ended.

As the sunset glowed red, orange and pink in the west, both citizens and Confederate soldiers watched the campfires of a thousand Union Army soldiers burn brightly as day turned into night. Worried residents wondered if the ceasefire would end the following morning and the battle would resume. They heard the Union Army musicians playing their instruments well into the night and saw the campfires slowly die out.

Unknown to citizens or Confederates, Canby thought a larger force of Sibley's forces would return to Albuquerque and had ordered his soldiers to quietly move south during the night leaving the musicians behind for part of the night to cover up the noise of their departure. Canby moved into the Sandias, where on April 1 the victorious Colorado volunteers joined him at the village of San Antonio. Canby now had a large force, which he soon sent towards Albuquerque.

Sibley had by then arrived in Albuquerque from Santa Fe. At a meeting of his officers, he explained their situation. They had food for 15 days and only 35 to 40 rounds of ammunition per man. To save his army he felt it was best to retreat down the valley and out of the territory. No one disagreed. Some of the wounded would have to be left behind.

Eight brass howitzer cannons, for which they had no ammunition, would also be left behind. In the middle of the night Capt. Trevanion T. Teel, chief artillery officer, was ordered to bury the howitzers in secret at a corral behind San Felipe Neri Church. Sibley wanted to be sure the cannons would not be used against the Confederacy in the future. They were later recovered, and two are preserved in The Albuquerque Museum.

On the morning of April 12, the rebel army began its retreat southwest of town, crossing to the opposite bank of the Rio Grande. Traveling with Sibley and the Confederate Army were the unhappy brothers, Rafael and Manuel Armijo, who had to leave behind their homes, their fortunes and their reputations.

Bringing up the rear was Col. Tom Green with the baggage train and the artillery. He didn't start until the morning of April 13, traveling on the east bank of the Rio Grande until he reached Peralta. A small skirmish between Union troops and the stragglers from Tom Green's group occurred the next day, but a cold, dusty and biting New Mexico spring wind ended the fighting. The following day Green's soldiers joined the rest of Sibley's army for a march southward out of New Mexico.

Resources:

Simmons, Marc. Albuquerque: A Narrative History

Simmons, Marc. The Little Lion of the Southwest: A Life of Manuel Antonio Chaves

Alberts, Don. Rebels on the Rio Grande.

Lesson Plan: The Civil War in Albuquerque

By Laura Sanchez Brown

Activity 1: Compare and contrast the leadership of the Union and Confederate armies in New Mexico.

Objective: Students will find the similarities and differences between Col. Canby of the Union army and Gen. Sibley of the Confederate Army during their campaigns in the Territory of New Mexico in 1862.

Standards

Social Studies: I.D.1: Analyze and evaluate information by developing and applying criteria for selecting appropriate information and use it to answer critical questions.

Language Arts: **I.B.2:** Interpret and synthesize information by responding to information that is read, heard, or viewed.

Materials Needed: Pencil and paper for each student

Setup and Preparation: Provide a copy of the history background information to each student.

Student Directions: Using the information provided about Col. Canby of the Union army and Gen. Sibley of the Confederate army, find the similarities and differences between these two men. (You may use a Venn diagram to complete this)

Example:

Differences:

Colonel Canby	General Sibley
1. Fought for the Union	1. Fought for the Confederacy
2. Clean shaven	2. Wore mutton-chop sideburns, mustache
3. Tall	3. Imposing
4. Cautious	4. Not decisive
5. Careful planner	5. Sought Advice of Junior Officers
6.Methodical	6. Drank Too Much Rum and Whiskey

Similarities:

Colonel Canby “stood straight with confidence” while General Sibley “sat very erect on his horse.” Both believed in the importance of holding New Mexico.

Assessment: Students should complete a Venn diagram, list, or essay that has most of the similarities and differences listed above.

Extension: Have students look at the differences between Colonel Canby and General Sibley. What traits were important to Colonel Canby's victory in New Mexico? Write an essay about the qualities of a good leader.

Activity 2: Make a timeline of the major events in the Civil War in New Mexico.

Objective: Students will put the events of the Civil War in New Mexico in chronological order. This will give the students an idea of the spacing of the events and of the time frame within which the events occurred.

Standards

Social Studies: I.D.1: Analyze and evaluate information by developing and applying criteria for selecting appropriate information and use it to answer critical questions.

Materials Needed: Pencil and paper for each student

Setup and Preparation: Provide a copy of the history background information to each student and present the following background information about timelines.

Background Information

Timelines are great resources for students to construct a visual representation of events. It helps students see the spacing of events that occurred and the time frame within which they occurred. First, discuss the concept of an interval (units of time between each space on a timeline). A timeline that covers a year or less (such as this one) may want to choose intervals of one week to one month. We will choose one month intervals. Don't forget to put a title on your timeline.

Student Directions: Put the following events on a timeline of the Civil War in New Mexico:

- February 21, 1862: The Confederate Army defeats Union soldiers at the Battle of Valverde and advance north of Ft. Craig
- March 6, 1862: Sibley creates a Confederate headquarters in Albuquerque
- March 28, 1862: Battle of Glorieta Pass
- April 1, 1862: "Battle of Albuquerque"
- April 12, 1862: Confederate forces withdraw from Albuquerque

Assessment: Students should complete a timeline with the five events listed above. (See example timeline at the end of this lesson plan.) Check that:

1. Intervals between months are equal
2. Events are placed accurately within the interval (either at the beginning, middle, or end of a month)
3. Events are placed chronologically.

Extension: Have students map the major events of the Civil War in New Mexico. An excellent map can be found in the book "New Mexico!" by Marc Simmons. (See Resources.)

Resources:

Roberts, Calvin A. Ph.D. and Roberts, Susan A. Ph.D. A History of New Mexico.

Simmons, Marc. New Mexico!

Activity 3: Write a journal entry

Objective: Students will infer what the people of the Territory of New Mexico felt and thought when conflict from the Civil War came to their homes.

Standards

Social Studies: I.D.2: Demonstrate the ability to examine history from the perspectives of the participants.

Language Arts: **I.A.1**: Narrate an account (e.g., news story, historical episode) that creates a coherent organizing structure appropriate to purpose, audience, and context and that orients and engages the reader. **II.C.1** Express individual perspectives in written response to personal, social, cultural, and historical issues.

Materials Needed: Pencil and paper for each student

Setup and Preparation: After reading the background information as a class reiterate the following background information for this assignment:

In 1862 the Confederates had early success in New Mexico by winning the Battle of Valverde outside Ft. Craig and proceeding north. Governor Connelly then traveled through Albuquerque on his way to Santa Fe. Concerned that Albuquerque was defenseless, ranchers were advised to conceal livestock in the Manzano Mountains and Santa Fe, many Albuquerque citizens buried valuables or took them out of town. The citizens of New Mexico believed that the Texans of the Confederate Army were "mucho mas grande que los Americanos" (a lot bigger than the Americans). On April 1, 1862 the cannons of the Confederate Army started firing in Albuquerque.

Student Directions: You live in Albuquerque in 1862. You have heard the rumors about the size and strength of the Texans entering Albuquerque. Many of your friends and family have fled the city with their valuables, but you have stayed behind. It is April 1 and the cannons of the Confederate Army have started firing. Write a one page journal describing what you are thinking and feeling. Relate these feelings directly to the events leading up to this day as discussed in the background information.

Assessment: Look for the following components in the journal. Determine the points given for each component as you see fit (25 points for each component = 100 points total):

- Component 1, historical accuracy. The student accurately portrays the events that occurred in Albuquerque in 1862.
- Component 2, inference of feeling. The student infers how each of these events made the people of Albuquerque feel while speaking in the first person as if they were there.
- Component 3, sequence. The student presents a clear order of events.
- Component 4, writing mechanics. The student punctuates and spells correctly.

Jubilation, Prosperity and Growth
The Coming of the Railroad

Early on the morning of April 22, 1880 excitement electrified the plaza. By late morning the square filled with railroad officials, dignitaries from other towns, the Ninth Cavalry Band from Santa Fe and the noisy members of the public.

After a thunderous roar from the artillery battery, a parade marched a mile east. People jammed the streets and sat on rooftops to watch. It was the biggest celebration Albuquerque had ever staged. The railroad had officially arrived.

The town's boosters had long sought the railroad. In the 1870s William McGuinness, editor of the Albuquerque Review, often wrote that Albuquerque needed the railroad to become a great commercial center. Surrounding the town were vast forests the timber industry might exploit if they had a way to ship lumber. Men had discovered gold and coal in the mountains. Ranchers raised sheep by the thousands throughout the valley. They all needed a railroad to transport large quantities of their products to markets.

The Seed

In 1859 Cyrus K. Holliday secured a charter for a railroad that would link Topeka, Kansas and Santa Fe, following the Santa Fe Trail. He named his railroad the Atchison and Topeka and then renamed it Atchison, Topeka and Santa Fe in 1863, which became known, simply, as the Santa Fe.

Because of the Civil War, Holliday had trouble raising money, but in 1868 the company built 360 miles of track from Topeka to the Colorado border. During the 1870s, the AT&SF struggled like every other railroad. They had all borrowed heavily, and passenger and freight traffic was still thin. The AT&SF survived by hauling cattle.

As the economy recovered, Holliday extended his tracks to southern Colorado and its coal fields. He then decided to build the line to Santa Fe. A second railroad, the Denver & Rio Grande Western Railroad, had the same idea, and the two raced toward Raton Pass. They arrived about the same time. The D&RGW crew went to bed. The Santa Fe crew worked all night. When the D&RGW crew appeared at 5 a.m., the heavily armed Santa Fe men held their ground. They traded threats but not gunfire, and the D&RGW crew withdrew.

The Santa Fe railroad continued south. In this time the Santa Fe Railway also took over the St. Louis & San Francisco Railroad and the Atlantic and Pacific Railroad. It needed approval from the Territorial Legislature to build into New Mexico. W.B. Strong, the Santa Fe's general manager, and Miguel A. Otero, who had many business interests in the East, went to Santa Fe and got a charter for the New Mexico & Southern Pacific Railroad Co., a subsidiary of the AT&SF.

Negotiations in New Mexico

New Mexicans assumed the railroad was a giant corporation with unlimited access to funds, but in fact the AT&SF was struggling to raise money from Eastern investors to continue building. In Las Vegas, the first major town in New Mexico, the railway wanted 30 free acres, $10,000 in cash and free right of way. When civic leaders declined, the railroad built its track a mile east of the town.

As the railroad approached Santa Fe, community leaders were sure it wouldn't bypass them, but Strong determined that the best route was through the Galisteo Basin, leaving Santa Fe 18 miles north of the track.

In Bernalillo railroad representatives asked landowner Francisco Perea and his nephew José Leandro Perea if they would sell land for shops and repair facilities and offered $2 or $3 an acre. The Pereas wanted $425 an acre and not a penny less. It wasn't greed motivating the Pereas, who were already quite wealthy. Francisco had run for Congress on a platform opposing the railroad because he feared it would ruin the wagon freighting industry.

Unable to consummate a sale in Bernalillo, chief surveyor Lewis Kingman, chief engineer Albert Alonzo Robinson (Robinson Park in downtown Albuquerque is named for his daughter), and three others boarded the Concord Stage Coach and traveled south to Albuquerque.

Wheels and Deals

Knowing what had happened in Las Vegas, Bernalillo and Santa Fe, local boosters were nervous but much better prepared and more than willing to accept what the railroad agents offered them. On July 5, 1879 merchant Ambrosio Armijo led a town meeting at the courthouse. All the influential citizens spoke about the benefits that would come to Albuquerque if it had rail service. They urged everyone to give AT&SF everything it wanted. They spoke of giving the company a free right of way through the village's eastern limits as a goodwill gesture.

The railroad men continued on to Albuquerque, where they quietly cut a deal with merchant Franz Huning, grocer Elias Stover and attorney William Hazeldine. The three formed The New Mexico Town Co., a real estate firm and a subsidiary of the New Mexico and Southern Pacific Railroad Co. The Town Company quietly bought up all the land in or near the right of way and deeded it to the railroad for one dollar and a share of profits from sale of lots.

That's why Albuquerque and not Bernalillo became a railroad boom town.

Tracking Progress

By the end of 1879 the tracks had progressed from Las Vegas to within 80 miles of Albuquerque. Construction engineers planned to build in a straight line south from Galisteo down the Rio Grande Valley. In early January 1880 railroad officials announced that the AT&SF would build the depot and rail yards about a mile east of the plaza, beside the road leading to Carnué Canyon (Tijeras Canyon).

That meant the tracks wouldn't run through Albuquerque. Instead, the tracks would be east of town to accommodate north-south track alignment and to avoid washouts when the Rio Grande flooded. The last rail was laid to the depot grounds by 4 p.m. on April 5, 1880. A boxcar pushed onto a side track became a temporary depot. On April 10, 1880, the tracks gained Albuquerque and on the 15th a freight train pulled in, without fanfare.

Albuquerque's Welcome

The official celebration, on April 22, began with a parade, led by the Ninth Cavalry Band from Santa Fe. A proud Franz Huning followed in his carriage, along with the carriages of other speakers and prominent citizens. Then came school children, horsemen with decorated bridles and saddles, and finally citizens in their Sunday best, either walking or riding their burros. They followed a road that Huning himself had improved from the plaza to the railroad tracks that would be called Railroad Avenue and, later, Central.

Arriving at the tracks, the crowd surrounded two flatcars pulled in as an impromptu stage, where speakers delivered flowery oratory in both Spanish and English. Huning was first to speak, praising the railroad and sharing his high expectations for the future development of Albuquerque. Other speakers included Miguel Otero, by then a vice president of AT&SF, and Hazeldine, who asked, "Are we of Albuquerque prepared to take advantage of this opportunity?" And the band played on.

Then the crowd climbed aboard a ten-car excursion train covered in red, white and blue banners for a free trip to Bernalillo. The 30-minute ride, traveling faster than most of its riders ever had before, was the experience of a lifetime for many, especially the poor people of Albuquerque.

In Bernalillo visitors were treated to another celebration with more speeches led, ironically, by José Leandro Perea and a fiesta with tables covered with food and drink. Back in Albuquerque revelers hurried back to the plaza for more festivities. Barrels of wine awaited them at the plaza. The military band played, artillery boomed and fireworks sparkled in the night sky. Father Donato Gasparri gave the final speech, pointing out that Albuquerque was the "heart and center" of the New Mexico Territory.

The sleepy little village of Albuquerque wasn't then the heart and center of the territory, but because of the railroad, in the decades to come, it would be.

Two Towns

The railroad spawned a second town, as stores and saloons sprouted along the tracks in tents and shacks. In time the new commercial district gained permanent structures of brick and brownstone. It became known as New Town, and the original community became Old Town.

The day after the grand celebration, Peter "Shorty" Parker established the first business in New Town, where the dirt road now named Railroad Avenue crossed the tracks. He paced off 6 square feet, which he claimed by squatter's rights. Next he dug a hole in the sand to keep his merchandise cool. With several broken boards and a barrel, he had a counter and opened his bar for business. Next the Concannon House opened for business in two spacious tents next to the tracks and south of Shorty's establishment.

Lots were selling for $10 each. Land speculators, opportunists, businessmen and professionals began arriving. A cluster of tents, shanties and even a few frame and adobe buildings began to rise along Railroad Avenue.

To link Old Town and New Town, the Street Railway Co. was organized in 1880. The trolley was the pride of Albuquerque. It had eight mule-drawn cars and three miles of track connecting the plaza with New Town and the suburb of Barelas. Its president was Oliver E. Cromwell, whose financial backers were Huning and Hazeldine. Passengers

could ride in the open cars from the railroad depot to the end of the line at Elias Stover's house near the plaza.

The light, narrow-gauge tracks ran down the center of Railroad Avenue on an elevated grade of dirt. Cars were so light that high winds often blew them off the tracks, which required riders and conductor to lift them back on again. There was a rush hour each morning and evening when workers commuted to and from the railroad yards, but the rest of the time the trolley operated at a slower pace. Drivers often waited for shoppers to finish their errands. Anyone who lacked a fare could charge it.

The founders of New Town hoped that New Town and Old Town would grow together and become one. But almost two miles of bare floodplain lay between. The tall buildings of New Town and the low adobe buildings of Old Town just didn't fit together, and neither did attitudes and cultures.

The two towns squabbled for years over the right to postmark their mail Albuquerque. From Washington, the post office decreed that they would use Old Albuquerque and New Albuquerque. Old Town wasn't formally incorporated into Albuquerque until 1949.

New Town Grows

The Town Company hired Col. Walter G. Marmon, a civil engineer, to survey, mark and name the new streets of the town site. Streets running north to south between the railroad and the edge of Old Town he named First through Sixteenth Streets. Because First Street faced the tracks nearly everyone called it Front Street. The cross streets running parallel to Railroad Avenue were named Copper, Gold, Silver, Lead, Coal, and Iron, apparently reflecting some optimism that Albuquerque would become a major shipping depot for the mining industry.

South of Coal the streets were named Huning, Hazeldine, and Stover. East of the tracks Marmon named a street Broadway because he thought any proper town ought to have a street by that name. The next streets were named Arno, for Franz Huning's son, and then Edith and Walter for his own children. High Street lay along gravelly hills that rose into the East Mesa. At this point the Town Company ordered him to stop, believing the town would never reach that far.

By 1881 a building boom was under way. Lyman Beecher Putney put up the first structure at First and Railroad Avenue to house his store. He had brought the building with him in panels, which he transported by flatcar. This type of building was called a "perhaps house" because it could easily be moved to another place. Putney lived in his store and slept in a hammock hung from the ceiling.

Mariano Armijo thought the town needed a good hotel, and he built The Armijo House, a three-story frame structure with a Mansard roof, on the southwest corner of Third and Railroad Avenue. Believing this eastern architecture would attract more guests, he departed from the familiar adobe buildings of the plaza. The A.A. Grant building, across the street from The Armijo House, was two stories tall, with space for four stores on the first floor and an opera house on the second floor. The Grant Opera House seated 1,000 people.

In 1882 a new hotel, the San Felipe, was built on the corner of Fifth and Gold for a cost of $103,000. It was a three-story brick building with a 40-foot tower, a fancy roof and 80 rooms.

Albuquerque also got a Harvey House. To feed passengers, the Santa Fe had struck a deal with Fred Harvey in 1876 to become sole provider of food services along the line. As the track moved west, Harvey opened Harvey House restaurants every 100 miles that became known for good food and service by the Harvey Girls, "women of fine character" who waited tables. Many a Harvey Girl survives to tell about her experiences in the famous establishment.

New Neighborhoods

Before long, land that was virtually worthless before the railroad began selling for $2,000 per lot. Huning, Stover and Hazeldine, Albuquerque's first land speculators, presumably did very well. Soon after the railroad arrived, Huning began building the Highland Addition, east of the railroad between Copper and Iron. Now called Huning Highland, it was Albuquerque's first residential development.

Huning was already a successful Albuquerque merchant, having opened his first store in 1857. Three years after the railroad's arrival, he built a 14-room mansion called Castle Huning at Railroad Avenue (Central) and Fifteenth Street. (It was torn down in 1955.)

The Pereas of Bernalillo may have missed an opportunity in not negotiating with the railroad, but they weren't out of the game. José L. Perea prospered in Albuquerque, building his own subdivision, now called the Downtown Neighborhood District, in 1881.

All of these men continued to be movers and shakers. Huning, Stover, Hazeldine and Perea, along with others, joined to organize the Territorial Fair, which became the State Fair. Stover was the first president of the University of New Mexico.

Albuquerque's Changing Face

The railroad brought goods in quantity that freighters had previously hauled on wagons and mule trains. It also brought newcomers. Before the railroad, Albuquerque's population was largely Hispanic with a sprinkling of Anglos. By 1885, the town counted more than 20 ethnic groups, including African-Americans, Chinese and Italians who were building the line.

The town's economy changed dramatically. Albuquerque became a shipping point for livestock and wool, and the lumber industry boomed. In the early 1900s American Lumber Co. was second only to the railroad as Albuquerque's largest employer. Its 110-acre complex was built between 1903 and 1905 near Twelfth Street. That's how the Sawmill Neighborhood got its name. At its peak it employed 850 men and produced milled lumber, doors and shingles.

The Alvarado

For some time the depot was a boxcar set on pilings. Construction began on the depot and railroad complex in 1901.

By then work had started on the Alvarado Hotel. Completed in 1902 at a cost of $200,000, it was considered the finest railroad hotel of its time. Charles F. Whittlesey designed the California Mission-style building, which featured towers, balconies, and arcades supported by arches. It had 75 rooms, parlors, a barbershop, a club, a reading room and a Harvey dining room. It also offered electricity and steam heat, luxuries at the time. Whittlesey's mark is on a number of railroad hotels, but he's probably best known for designing El Tovar at the Grand Canyon.

At the Indian Building, which stood between the hotel and depot, visitors could see Indian artisans at work and purchase their wares. It was a successful early effort to promote Indian art.

The Alvarado became the society center of the city, a place where families ate their Sunday dinner, if they could afford it. The Alvarado was an oasis in a city that still had dirt streets and little greenery. In its dining room the state's Constitution was signed in 1911.

Booms and Busts

In 1914 the railroad began building its Albuquerque shops south of New Town, along with the 75-stall roundhouse, the railroad's largest. For many years the railroad was the city's largest employer. In 1940 the Santa Fe Railway's roundhouse and shops had more than 1,700 workers. A steam whistle on the 240-foot smokestack blew at 7:30 a.m. to start the work day and again at noon for lunch. At 4 p.m. it signaled quitting time.

Albuquerque got air service in 1929 but it didn't affect the railroad for decades. That year Albuquerque was a stop on the first coast-to-coast transportation route using airplanes and trains. Airplanes then didn't fly at night, so Transcontinental Air Transport service paired with railroads. For the two-day trip from New York to Los Angeles, passengers flew during the day and traveled by train at night. TAT became TWA.

In the 1950s, the railroad began using diesel fuel instead of coal, and passengers began to do more driving. Air travel gained popularity. And there were more trucks hauling freight. The railroad started to decline. It closed its shops in the 1970s and, sadly, also tore down the Alvarado Hotel. The depot burned in 1993. However, 17 original buildings remain, and there are plans for the site, including a museum and a digital production studio.

After several mergers in the 1990s, the Santa Fe Railway became the Burlington Northern Santa Fe Corp., which operates more than 1,000 trains across a 33,500-mile rail system in 28 states.

The state plans a commuter rail system from Belen to Santa Fe, with the first link from Belen to Bernalillo to begin this year.

Resources:

Bryan, Howard. "The Second Albuquerque," ***New Mexico Magazine,*** April 1980.

Myrick, David. New Mexico's Railroads.

Poling-Kempes, Lesley. The Harvey Girls.

Simmons, Marc. Albuquerque, A Narrative History.

Lesson Plan: The Coming of the Railroad

Written by: Tracy Robert

Objective: Students will participate in creating a group or classroom "newspaper" from the railroad era. They will learn and research designated topics relevant to the coming of the railroad in Albuquerque and will express this knowledge in writing and/or in pictures through their contributions to the project. This assignment is meant to be a project taking from a few days to a week or longer, depending on the time you have to allot for it and the quality of work you expect from students.

New Mexico Standards: Social Studies

Strand I: History
Benchmark I-A: Explore and explain how people and events have influenced development of New Mexico up the present day.
Performance Standard 7.6: Explain the impact of New Mexico on the development of the American West up to present, to include:

- Availability of land (e.g. individuals, railroads, automobile)
- Transportation (e.g. wagons, railroads, automobile)
- Cultural interactions among indigenous and arriving populations and the resulting changes
- Population growth and economic patterns
- Identity and use of natural and human resources

Strand II: Geography
Benchmark II-C: Understand how human behavior impacts man made and natural environments, recognizes past and present results and predicts potential changes.
Performance Standard 7.1: Explain how differing perceptions of places, people, and resources have affected events and conditions in the past.
Benchmark II-E: Understand how economic, political, cultural and social processes interact and shape patterns of human populations and their interdependence, cooperation and conflict.
Performance Standard 7.3: Explain the accessibility to the New Mexico Territory via the Santa Fe Trail and the railroad, conflicts within the indigenous peoples and the resulting development of New Mexico.

New Mexico State Standards: Language Arts

Strand I: Reading and Listening for Comprehension
Content Standard I: Students will apply strategies and skills to comprehend information that is read, heard, and viewed.
Benchmark I-B: Gather and use information for research and other purposes.
Performance Standard 7.1: Use a variety of resources to express individual perspectives in response to personal, social, cultural, and historical issues.

Strand II: Speaking and Writing for Expression

Content Standard II: Students will communicate effectively through speaking and writing.
Benchmark II-C: Demonstrate competence in the skills and strategies of the writing process.
Performance Standard 7.1: Express individual perspectives in written response to personal, social, cultural, and historical issues.
Performance Standard 7.3: Produce research reports and technical writings that communicate information effectively to a specific audience.

Materials:

- Butcher paper for "KWL" chart, multiple sheets white poster board for "newspaper" pages, or access to a publisher program on the computer
- Markers if using poster board for final copy
- Paper and pencils or pens
- Computer with Internet access

This project can be completed in the classroom setting, although the use of the school computer lab may be needed if you wish to use the publisher program and it is in your computer lab and not on your classroom computer.

Anticipatory Set:
Teacher will set up a "KWL" chart to assess what students know and want to know about railroads. Later, the "L" section will be filled in to reflect what has been learned. A "KWL" chart is a three column chart that can be drawn out on a sheet of butcher paper. The teacher divides the chart into the three columns labeled "Know/Want to Know/Learned." This is an opportunity for teachers to assess previous knowledge or experience with the topic and for students to generate interest in the topic.

Instruction:
Teacher will lecture or lead lecture and discussion for 10 to 30 minutes to introduce the impact the coming of the railroad had on the development of Albuquerque as a city. Use the Teachers Resource Guide background history of the "Coming of the Railroad." The teacher may want to address individual student interests as determined by the "KWL" chart.

Activity (Guided Practice/Independent Practice):
Students will write and design newspaper-style articles and advertisements for an 1880-1940 era Albuquerque newspaper. This activity can be done as a whole class with each individual or partner group making a contribution to a whole class newspaper or can be done with groups of 4 to 6 creating their own newspaper. The newspaper itself can be created on sheets of poster board divided into headings and columns or can be done on a publisher program on the computer. Although my description of this project focuses on writing, illustrations can be added as appropriate to each article or advertisement.

Once you have decided if each individual or partner group will make their own contribution to a class newspaper or if students will work in groups, the year (or years) for your created newspaper(s) will need to be determined. Articles and advertisements

should reflect events and interests current to that year and not draw upon things that happened in the future unless presented in a tone of planning and speculation. If working with multiple groups creating their own newspapers, the teacher may want to assign different decades to each group so that the class is exposed to a summary of each decade.

Students may choose to write information-based articles, reporting events and facts from their time period or topic or may choose to write in an editorial tone, creating speculation and personal opinion on a topic from a historical view point. Whether a student is operating as a reporter or in an editorial role needs to be clarified beforehand since the two styles of writing should be defined as separate purposes and styles.

Students will need to select topics relevant to the year their newspaper is representing. Each student or partner group should write their own article or articles to contribute. Less fluent students may do best working with a partner and/or focusing on less language-intense advertisements. Suggested topics for articles include, but are not limited to:

- The Early Years (the original deal and how it affected Albuquerque through 1885)
- Why Anglo Settlers Came to Albuquerque/Benefits to Business (train could take livestock, farm produce and other goods out of the state)
- The Types of Businesses Established Because of the Railroad (lumber, saloons, etc.)
- Types of People Who Came to Albuquerque (law abiding businesses and their families as well as professional gamblers, prostitutes, etc.)
- Fred Harvey and the Harvey Girls/Tourism, Service and Architecture
- Economy (railroad jobs and business)
- How the Railroad Created a Boom in Population

Advertisements need to consider the business and the population of Albuquerque. What do you want to advertise? What do you want to do to appeal to the types of people you want? Advertisements may include information on “Wanted” individuals who have committed fictitious crimes, as well as information to appeal to possible tourists, business people, etc. as appropriate for the newspaper’s era. Advertisements can include goods like farm equipment, livestock, and personal health products like soap or shaving supplies. They also can include advertisements from fictitious businesses advertising their services, such as the lumberyard, saloon, general store, barbershop, etc.

When articles and advertisements have been written they will need to be placed into the newspaper, considering page layout. Students may want to note the headings and columns of a modern newspaper for assistance. They may want to use a “Wild West” type font of writing to create headings.

This assignment is meant to be a project taking from a few days to a week or longer, depending on the time you have to allot for it and the quality of work you expect from students. Students may need or want to do more research on their particular article or advertisement. This is also an excellent opportunity to go through the writing process and

talk about prewriting, rough drafts, writing for a purpose, proofreading, etc. Only the final drafts will be placed into the newspaper.

Closure:
Students will each present their newspapers to the class if they worked in groups. If they each made an individual contribution, each individual will share what they wrote and what they learned on that topic. Final products should remain available for students to view. The advantage of using poster board is that it can be hung in classroom or hall walls for continued learning and enjoyment, but computer-generated projects can be printed out and displayed or stored in a notebook of class created reading material.

Evaluation:
Teacher will evaluate students based on their participation, completed portions of the assignment and their oral presentation of their work.

Extended Practice:
Teacher may wish to show a related video or participate in a field trip, such as those recommended below.

Resources:

Video
"Early Albuquerque: The Railroad Boom Years, 1880-1912", available through the Rio Grande Library System: www.cabq.gov/library

Search www.cabq.gov/library under "Library Catalog" for "Albuquerque Railroad," as there are "Cavalcade of Enchantment" and "*Colores*" series videos on the railroad, the Alvarado Hotel, and other subjects related to this project specifically and New Mexico/Albuquerque History in general.

Web sites

www.cabq.gov/museum/history/historyresources.html
www.cabq.gov/aes/s2p2hist.html
http://www.wheelsmuseum.org/wilson0.html
http://www.itsatrip.org/tricentennial/300history/
http://www.nmgs.org/artRRfam.htm
http://www.rootsweb.com/~nma/hisrr.htm
http://www.abqchamber.com/content/VisitorInfo.asp
Most Recommended Site: http://www.wheelsmuseum.org/

Guest Speaker: Leba Freed at the Wheels Museum, 243-6269

Field Trip: The state plans a commuter rail system from Belen to Santa Fe, with the first link from Belen to Bernalillo to begin this year. For information, contact the Middle Rio Grande Council of Governments Transportation Division, 247-1750. Belen has a museum to commemorate the Harvey House railroad legacy.

Readin', 'Ritin', 'Rithmetic and Religion
The History of Education in Albuquerque

For more than a century the three Rs in Albuquerque also involved a fourth R, religion. Without the Catholic Church there would have been no formal education. After the railroad brought newcomers, Protestant churches also answered the need for education and training.

Early Education

Formal education in New Mexico began in 1599 with Franciscan priests who had entered with the Oñate expedition. Priests provided religious instruction and also taught Indian children to read and write until the Spaniards were expelled during the Pueblo Revolt of 1680. When the Spaniards returned after the reconquest in 1692, the priests educated both Indian and Spanish children.

In 1680 85 of 131 New Mexicans could not write their names, which means that 46 probably could. Those who were able to read and write likely made an effort to teach their children. If a woman was literate, the priest often noted that fact at the time of her marriage.

After Mexico won its independence, the Republic of Mexico introduced the first free public schools in New Mexico. These proved to be ineffective because the government didn't provide financial support. In 1828 the *alcalde* (mayor) of Albuquerque asked the governor for money for paper and books. Three years later the provincial assembly provided 40 pesos so Albuquerque's lone teacher could buy a few school supplies.

The school didn't enjoy support from parents either. They wanted their children at home so they could work. The village's wealthy residents were already sending their sons to the United States or Mexico for formal education.

When New Mexico became a U.S. Territory in 1846, the church was still educating a limited number of students and a few wealthy families sent their children to schools in St. Louis and farther east. The Sisters of Laureate operated a small school at San Felipe de Neri, but closed it in 1869.

Political instability, Indian conflicts and the Civil War prevented the territorial government from addressing education until 1872, when counties were empowered to spend public funds on education. That year the Jesuits opened a school for 60 boys in a house rented from merchant Ambrosio Armijo. Subsidized by money from the Territorial Legislature, the school continued through the 1870s, despite occasional challenges from Protestants.

After the Railroad

In 1881 the Sisters of Charity opened the Old Town Public School (for girls and boys) and Our Lady of Angels Private School in rooms of their newly built convent. Nuns taught the private school, and Jesuit priests taught the public school.

In this period Father Padilla began teaching classes for orphans whose parents had been killed by Indians. In the early 1890s his school became a public county school, Los Padillas, which then mushroomed into six rooms in 1912.

As New Town developed near the railroad tracks, the Armijo brothers (Perfecto, Mariano and Jesus) gave the church a tract of land to the north. There, St. Vincent Academy was established in a large, two-story building at what is now 6th and Lomas, and staffed by the Sisters of Charity. The Sisters also opened day schools in Barelas and Los Duranes. Sister Blandina Segale led the effort to establish and guide these early schools.

With the arrival of the Atchison, Topeka & Santa Fe Railroad in 1880, increasing numbers of Protestant families arrived in Albuquerque and took steps to establish schools for their children.

Colorado College started Albuquerque Academy (no relation to the existing school of the same name) in 1879 in Old Town as a Protestant boarding school. In 1882, it moved to a new building south of downtown on land donated by the New Mexico Town Co., the developer of New Albuquerque. The school received support from a national Congregationalist group called the New West Education Association, which helped create academies in territories without public schools. During the 1880s, the nondenominational Academy taught up to 300 students a year, both Anglo and Hispanic.

As Albuquerque Academy gained students, it needed a new building. Trustees raised $24,000 locally and nationally and in 1890 completed a three-story brick and stone building, complete with a clock and bell tower, at the corner of Edith and Railroad (Central) in Franz Huning's Highland Addition. Named Perkins Hall, it was hailed as the finest educational plant in the American Southwest. It opened with 337 students.

In this period the federal government often contracted with Protestant churches to educate Indian children. This is why, in 1881 the Presbyterians under Dr. Sheldon Jackson founded the United States Indian Training School in a rented adobe house in Los Duranes. In 1882 businessmen raised money to buy a 60-acre farm east of Duranes and donated it to the BIA. By 1882 the campus had buildings, and the school moved to its new campus. In 1886 the government took over management of the school.

That year the Presbyterians acquired 200 acres and started the Presbyterian Industrial School, a mission trade school for Indians. However, the government school was by then successfully educating Indian children, so the Presbyterian Home Mission Board decided to close the mission school.

The board reopened a boarding school it moved from Las Vegas. Intended to educate Hispanic students, this school was named Menaul Training School in honor of the Rev. James Menaul, who had long practiced in New Mexico. The school then became an elementary boarding school for Hispanic boys. By 1906 it included a high school. (The school became co-ed in 1934 and became independent of the church in 1972. It ceased being a boarding school in 2000 and now accepts applications from students of all backgrounds.)

Methodists started a school in 1887, called Albuquerque College, which closed after two years. Also in 1887, Emily Harwood, wife of a Methodist missionary, started a girls school in a small house downtown. Over the years it moved to larger and larger buildings until the Women's Home Missionary Society built a school at Seventh and

Mountain Road. (The Harwood Girls School closed in 1976. Today the building is the Harwood Art Center.)

At the end of 1890 the Albuquerque Daily Citizen observed: "Albuquerque is already recognized by the country at large as the railroad and commercial center of the Southwest, and the advance we have already made in the way of institutions of learning show that the town is to be recognized hereafter as also the educational center of the country… the location of the Territorial University at this point gives a nucleus around which to build in this direction, almost indefinitely…"

Public Schools

On February 12, 1891 the Territorial Legislature passed a new public education law, which allowed municipalities to establish local school boards with the power to sell bonds for school construction. The tax subsidies that had supported both St. Vincent and the Albuquerque Academy were now transferred to the Albuquerque Board of Education.

At its first meeting on April 14, 1891 the board created Albuquerque Public Schools. The Academy's principal, C.E. Hodgin, became the first APS superintendent. The Academy went out of business and leased Perkins Hall to APS, where the first classes began on September 7 with 350 students. By year end it had 660 students.

A $60,000 bond issue in 1883 provided for construction of four ward schools in the four sections of New Albuquerque. Still, supplies and textbooks were so scarce that Hodgin passed one set of readers from one school to the next.

In 1900, Central School was build at Third and Lead for junior and senior high school students.

Albuquerque got a public library in 1891 because women, led by the socially prominent Clara Fergusson and Emma Hazeldine, raised $1,000 by holding a ball, dances, plays, concerts, operas and garden parties. The Commercial Club (a forerunner of the Chamber of Commerce) provided space for the books.

By 1900 the library was too big an operation to continue as a charity. A year later the library opened in Perkins Hall, which Joshua Raynolds, president of the First National Bank of Albuquerque, had purchased and donated to the City of Albuquerque for use as a library. The building also continued to be used for overflow classrooms for the growing school system, and as a public meeting room.

Higher Education

The establishment of tax-supported, free public schools was part of a larger effort to achieve statehood for New Mexico Territory by convincing Congress that New Mexico was sufficiently advanced to function in the national economy. After H. B. Fergusson, Territorial Delegate to Congress, successfully argued that New Mexico lacked the resources to support education, Congress passed the Fergusson Act in 1898, which provided the territory with a bequest of four million acres of public lands. Revenues from these lands could be invested in education. This arrangement continues today; the State Land Office overseas public lands that generate revenues for schools.

The creation of institutions of higher education was another statehood-oriented development. Albuquerque attorney Bernard Rodey led an effort by New Town business leaders to create a state university. Other towns also wanted the university. At the 1889 Legislature, Rodey got a bill through that established the University of New Mexico in

Albuquerque; Socorro got a School of Mines and Las Cruces, the College of Agriculture. All would benefit from state land revenues through the Fergusson Act.

The newly appointed University of New Mexico Board of Regents appointed businessman Elias Stover as the first president.

Classes were held initially in Perkins Hall. Rodey also worked with community leaders to obtain a large site for the new university on the East Mesa, and construction began on Old Main, which opened in September 1892. This building, later called Hodgin Hall, housed everything until 1900.

In 1901 UNM's campus consisted of two red-brick, steep-roofed buildings sitting alone on East Mesa. That year William G. Tight became the third president of UNM and would subsequently embrace what became known as Pueblo Revival architecture. It became popular across the state, but it wasn't popular in the early 1900s and became a factor in his firing in 1909. For years, UNM built only small, forgettable buildings.

James F. Zimmerman, inaugurated in 1928, presided over UNM's first big growth spurt. In four years he increased enrollment from 400 to 1,000 and doubled the faculty. Embracing the Pueblo Revival architectural style, he built eight new structures – Carlisle Gym, Science Lecture Hall, Yatoka Dormitory, Parsons Hall, the president's home, Bandelier East Dining Hall, and Marron West Women's Dormitory.

Zimmerman wanted to do more. Before the Depression had tightened its grip, he got a bond passed to build new engineering labs, build a stadium and grade an athletic field. After that, UNM lacked funding and even suffered funding cuts. Faculty members took substantial reductions in pay. Zimmerman subsequently took advantage of federal relief programs to build facilities beneath the stadium in 1934. And he secured funding from the same source for a new administration building (Scholes Hall), to be designed by John Gaw Meem.

In addition, Zimmerman went after funding to support unemployed professional workers, research, art projects and students.

In 1935, with federal money, UNM began building a student union building (the present anthro building) and a new library (Zimmerman Library). By the end of the decade, more than $1.6 million in federal money had improved all aspects of campus life.

Legacy of John Milne

With the approach of statehood, APS in 1911 selected as its first superintendent John Milne, who had come here as a tuberculosis patient. He would serve until 1956 and is credited for establishing a modern, professional and progressive school system.

Anticipating the city's growth, Milne had the district buy large tracts of land for future schools. In 1911 APS gained national attention when Milne refused to segregate schools and said Spanish-speaking children had a language asset, not a handicap. He also emphasized science and mathematics instruction.

When Milne proposed a bond issue for the new Albuquerque High School in 1913, critics said the school was too big, that it would never reach its 500-student capacity. AHS was completed at Broadway and Central in 1914. (By 1927 AHS needed a second building. In 1950 the campus had five buildings.)

Between 1912 and 1919 voters approved more than $500,000 in bond issues. In the early 1920s the school district built Washington and Lincoln junior high schools and John Marshall Elementary School. It then built Longfellow and Eugene Field. In 1923 it

approved construction of University Heights Elementary School in the Terrace Addition, near present-day TVI. As a result of vigorous growth, the new school in 1927 was overcrowded, and portable buildings were necessary. Four years later APS built Monte Vista Elementary School on land donated by housing developers.

In 1927 public kindergarten began, and the flood of five-year-olds resulted in serious overcrowding, even with new schools. In this period, Milne determined that in order to meet projected growth of students, the district needed a "continuous building program."

Then the Depression took its toll. In 1931 schools began slashing budgets. Teachers suffered a pay cut, and kindergarten was eliminated, not to return for 40 years. When the vintage 1892 Fourth Ward School burned down, Milne got federal money to build Lew Wallace School. The same sources provided funding to hire unemployed kindergarten teachers and provide jobs to others improving the grounds. In 1934 Coronado Elementary was built to replace the old Third Ward school. In 1937 APS built Bandelier Elementary on land donated by developers. In 1940 the district completed Jefferson Junior High.

Without this infusion of federal money, it's unlikely that APS could have kept up with the district's growth. By 1939 Milne said APS had built nearly $1.2 million in new schools during the 1930s with less indebtedness than it had in 1929.

Albuquerque's postwar growth was extraordinary, but APS kept adding new schools. During Milne's tenure as superintendent, from 1911 to 1956, the system grew from 5 schools and 1,600 students to 63 schools with 40,000 students. Bernalillo County's schools were consolidated into APS in 1949.

APS in 1950 became one of the first in the country to operate its own radio station, KANW-FM. In 1958, in cooperation with the University of New Mexico, it began television broadcasting on KNME-TV.

Modern Schools

In the last 50 years, the schools have had to adjust to changing family structures and values, increasing language diversity and a variety of educational mandates from state and federal governments.

Parochial and private education also kept pace. Although St. Vincent's Academy closed, St. Pius High School opened in 1956 to provide Catholic education in the growing Northeast Heights. In 1988 it moved to the former campus of the University of Albuquerque on the West Mesa.

In the 1950s, the Simms family provided land and resources to create two prep schools -- Albuquerque Academy (originally for boys) and the Sandia School for Girls (now Sandia Prep). Both are now co-ed.

Albuquerque Indian School continued to educate students until 1980, when it was transferred to Santa Fe. The growing availability of public schools on or near reservations led to a declining need for government boarding schools. The buildings were razed in 1987.

In 1971 the Southwest Indian Polytechnic Institute was established to serve as a vocational post-secondary school for Indian students throughout the region. It has about 400 students.

In 1994, Rio Rancho schools separated from the Albuquerque system, but current APS enrollment is still more than 87,000 students in 130 schools, with more than 3,000 teachers and other employees. Charter schools were authorized in 1999, and APS now has more than 30 charter schools educating 6,000 students.

The district has worked to integrate new technologies into its curriculum, with computers and the Internet bringing radical changes to the traditional classroom-textbook method that served previous generations.

Two high schools offer high-tech academies. West Mesa High School has the Photonics Academy to educate students in optics and photonics from middle school through graduate degrees. It's the first of its kind in the nation. And Albuquerque High School has the Academy of Advanced Technology, a four-year program that creates career pathways in information technologies and also leads to TVI and UNM

UNM's Growth Matches City

The University of New Mexico's enrollment growth paralleled Albuquerque's postwar growth. President Thomas J. Popejoy, who was the longest serving president of UNM (1948 to 1968), led the development of UNM's schools of medicine, pharmacy, nursing, law and business.

Enrollment grew from 1,800 in 1946 to 26,500 students today. UNM has 145 bachelor's degree programs, 83 master's programs and 42 doctoral program. And it has branch campuses in four other communities. UNM has also gained a national reputation for research, particularly in medicine and high tech. Funded research in 2004 totaled $278.4 million.

The campus continued to utilize Pueblo revival-style architecture, enhanced by a 20-year relationship with noted architect John Gaw Meem.

Another college in the city that didn't survive was St. Joseph's College. It began in 1920 as a summer school for teachers and then became the Catholic Teachers' College in 1940. In 1949 the name was changed to St. Joseph's. It moved to the West Side on a site overlooking the river in 1950 and completed its campus a year later. In 1966 it became the University of Albuquerque. But the U of A couldn't compete with other educational choices and closed in the 1980s.

TVI Meets City Needs

Albuquerque Technical Vocational Institute began in response to the need for an increasingly skilled workforce. APS established TVI in 1965. Its first nine classes, for 155 students, were in surplus barracks and a vacated elementary school.

TVI became independent in 1979 and has its own board. It has grown from its original campus at Coal and University to include the Montoya campus in the far Northeast Heights, added in 1979; a campus in the South Valley, in 1995; and a West Mesa campus in 2003. With 26,000 students, TVI is the second largest college in New Mexico and the nation's 55th largest community college.

TVI's regular curriculum includes arts and sciences, business occupations, health occupations, technologies, and trades and services. In addition TVI offers distance learning for both regular classes and customized classes for companies.

TVI has a long and well-deserved reputation for its responsiveness to employers' training needs. In 2004 the school added programs in microsystems, aerospace technology and film production to meet new demand in those areas.

Also in 2004 the National Science Foundation awarded a $2.8 million grant to TVI to establish the Southwest Center for Microsystems Education and the University of California chose TVI to develop a biophotonics technician program, the first of its kind in the nation, based on the excellent national reputation of TVI's Photonics Technology program. (Biophotonics is the use of light and radiant energy to understand living cells and tissue.)

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Lesson Plan: The History of Education in Albuquerque

By Laura Sanchez Brown

Activity 1: Post High School Education in Albuquerque

Objective: Students will research what areas of study and degrees are offered at the University of New Mexico.

Standards: **Language Arts**
II.C.1: Express individual perspectives in written response to personal, social, cultural, and historical issues.
II.C.3: Produce research reports and technical writings that communicate information effectively to a specific audience.

Setting: Classroom and computer lab with Internet access.

Materials: Poster Board and markers

Setup and Preparation: Provide a copy of the history background information to each student and present the following background information:

Student Directions: Research the various degrees offered at UNM. What areas of study can a student major in? What colleges or schools are on the campus (i.e. the College of Education, School of Law, etc.)? What area of study interests you most? What are some of the classes offered within this major? What careers are associated with this degree? Research UNM's website to find the answers to these questions (http://www.unm.edu/colleges.html) and create a poster to inform other students about an area of study at UNM (note: simply click on each college for a list of departments and majors).

Assessment: Look for the following components in the students' posters and presentations. Determine the point given for each component as you see fit (25 points for each component = 100 points total).

- Component 1, requirements listed: A description of the coursework is listed for the major area of study presented.
- Component 2, neatness: The poster is well designed and neat.
- Component 3, oral presentation: The student gave an oral presentation of his or her poster. The speaker projected his or her voice and answered all questions.
- Component 4, research: The student researched not only what is required to receive a particular degree, but also knows the career paths associated with that degree.

Activity 2: Design a school

Objective: Students will understand that schools develop and/or change in accordance with student needs. Students will analyze the needs of today's student and design a "perfect school."

Standards: Language Arts
II.A.4: Interact in group discussions by:
- Offering personal opinions confidently without dominating
- Giving valid reasons that support opinions
- Soliciting and considering others' opinions

II.A.5: Express individual perspective in response to personal, social, cultural, and historical issues.

Class Size: Any size (students should work in groups of 4)

Materials: Poster board and markers for each group of students.

Setup and Preparation: Provide a copy of the history background information to each student and present the following background information:

Schools in Albuquerque changed as the needs of the people living in Albuquerque changed. The first schools were Catholic, but as more Protestants arrived they established schools as well. As the population of New Mexico continued to grow, the Territorial government provided for the establishment of school boards. Albuquerque Public Schools (APS) has grown tremendously since 1891. APS continues to change to meet the diverse home languages of students and federal mandates.

Student Directions:
In the history of schools in Albuquerque, the schools changed to meet student needs. In what ways does your school meet your needs? Do you think that some of your needs are not met by your school (such as adequate physical education, good cafeteria food, high expectation for student achievement, etc.)? In your group design the "perfect school" that would meet your needs. Present your ideas on a poster board using words and/or pictures. Be ready to present your poster to the class and that each idea you present has supporting detail to convince your fellow students.

Assessment: Look for the following components in the group's posters and presentations. Determine the points given for each component as you see fit (25 points for each component = 100 points total):
- Component 1, supporting detail: The group gives support for each idea they present.
- Component 2, neatness: The poster is well designed and neat.
- Component 3, oral presentation: The group gave an oral presentation of their poster. The speaker projected his/her voice and answered all questions.
- Component 4, cooperation: The group worked well together, each student contributed equally to the final project.

Extension: Look at your group's poster. What was your best idea for improving your school and/or designing a new school? Write a letter to your district school board member addressing your ideas for change and improvement in your school. The APS board members can be found at the APS website (http://ww2.aps.edu/). Click on "About Us" and then click on "APS Leadership" where you will find district boundaries, board member names, and addresses.

Activity 3: Make a timeline of the major events in the development of education in Albuquerque.

Objective: Students will put the major events of Albuquerque's educational history in chronological order. This will give the students an idea of the spacing of the events and of the time frame within which the events occurred.

Standards: Social Studies
I.D.1: Analyze and evaluate information by developing and applying criteria for selecting appropriate information and use it to answer critical questions.

Materials: Pencil and paper for each student

Setup and Preparation: Provide a copy of the history background information to each student and present the following background information about timelines.

Background Information:
Timelines are great resources for students to construct a visual representation of events. It helps students see the spacing of events that occurred and the time frame within which they occurred. First, discuss the concept of an interval (units of time between each space on a timeline). A timeline that covers a long period of time (more than a century, such as this one) may want to choose an interval of one decade or longer. Don't forget to put a title on your timeline.

Student Directions:
Put the following events on a timeline of the Development of Education in Albuquerque:

- 1878: Jesuit school is established at San Felipe de Neri church
- 1878: Albuquerque Academy established by the Congregationalist Church.
- 1880: The Presbyterians begin the Albuquerque Indian School
- 1886: The Presbyterians begin an Indian industrial boarding school
- 1887: The Methodists establish Albuquerque College
- 1889: The Legislature passes a bill to establish the University of New Mexico
- 1891: Territorial Legislature gives municipalities the power to establish local school boards
- 1896: Menaul School established to serve Hispanics
- 1900: Central School is built to serve as a junior and senior high school
- 1956: St. Pius established as a Catholic High School

- 1965: Albuquerque Technical Vocational Institute (TVI) established
- 1971: Southwest Indian Polytechnic Institute established

Assessment: Students should complete a timeline with the twelve events listed above. Check that:

- Intervals between decades are equal.
- Events are placed accurately within the interval (either at the beginning, middle, or end of a decade).
- Events are placed chronologically.

Questions:

1. Where on the timeline was religious education the only option?
2. When did college become an option for Albuquerque citizens?
3. Which of the schools listed on the timeline still exist?

"Lungers" and "Sans"
The Legacy of Tuberculosis in Albuquerque

Tuberculosis. Isn't that a disease in third-world countries? Yes, but for decades until the 1940s, TB was a deadly disease afflicting the United States.

For Albuquerque, TB was more an opportunity than a curse. The town experienced a boom from health seekers, and the response to their needs birthed the city's modern health-care complex.

In the late 1800s, doctors and the public believed that sunshine, dry air, high altitude and warm climate would help tuberculars recover. In the early 1890s Albuquerque's Commercial Club, a forerunner of the chamber of commerce, began to promote Albuquerque to easterners suffering from tuberculosis, also called "consumption" and "the white plague." By 1909 TB had become the nation's leading cause of death.

Tuberculosis devastated lives. Nobody knew what caused it, when or whom it would attack, or how to cure it. This disease took children and adults. It struck rich and poor alike. Doctors didn't know what to do. Some of the more dubious treatments included collapsing a patient's lungs so they could heal; prescribing deadly does of creosote and opiates, which were available over the counter; and using X-rays.

Some doctors sent their patients west. Rest, good food, sunshine and a high, dry climate seemed to help. Others were drawn by the promotional advertising of Albuquerque's boosters and the railroad. Health seekers "chasing the cure" began arriving in Albuquerque in great numbers.

Care in Early Albuquerque

In those days the town had banks, hotels, stores, theaters, and mansions. What Albuquerque didn't have was hospitals. Although a few physicians and pharmacists had appeared with the arrival of the railroad, medical facilities were still in short supply. Health seekers lived in hotels, boarding houses, homes, tents and on the streets. Sick people, some arriving on stretchers and many without money, soon taxed Albuquerque's charities. Town boosters then changed their promotions to attract only health seekers of means.

For a long time citizens didn't understand that TB was communicable. The sick mingled freely with the well, and wealthy patients hired locals to work for them. As a result, the disease spread into the local population, with tragic results.

Seeing a need for better facilities, churches established facilities. The first was St. Joseph Sanitorium, opened by the Sisters of Charity in 1902. (A facility for the treatment of tuberculosis and diseases of long duration was called a sanitorium rather than a hospital.) The new sanatorium was in the "highlands" east of downtown; many Albuquerque residents thought it was too far out of town. The $50,000, three-story building had 38 patient rooms and sun porches, especially valued for treating TB.

The Sisters' mission was to treat the poor and underserved, and they were particularly concerned about TB patients. It was the city's first hospital to serve the community. By July 1904, the sanitorium had admitted more than 1,100 patients, almost a quarter of them charity cases. In the next few years the sanitorium would add a surgical wing, laundry, power plant, nurses' dormitory and 17 patient cottages.

In 1903 Rev. Hugh A. Cooper, a Presbyterian minister, came to Albuquerque to improve his health and became pastor of the First Presbyterian Church. Concerned with the large number of TB patients in the city, many destitute and dying, he decided that Presbyterians should lend a hand. In 1908 he founded the Southwestern Presbyterian Sanitorium, with support from the Commercial Club. The facility was a five-room house on Oak Street, one of the few homes on the dirt road to the university. It was the city's second sanitorium. Patients paid $40 a month for care, room and board. Presbyterian also added buildings. And it raised its own cows and grew its own food on land across the street.

Soon the town had eight sanitoria, mostly clustered between downtown and the university. There were also convalescent homes. The less fortunate stayed in tent houses, largely grouped around Presbyterian. As facilities increased, they drew pulmonary specialists as well as quacks. One treatment was "heliography," or sitting in the sun.

The Episcopal Church started St. John's Sanitorium in 1912. The same year the Methodist Sanitorium opened on Railroad (now Central) Ave.

Lasting Impact

The East Mesa drew such a concentration of "sans" and TB cottages that for a time the street was dubbed "TB Avenue," "Lunger's Row" or "San Alley." By 1912, nearly half the population was either a patient or family member. It wasn't unusual to see "lungers," as they were called, in bathrobes walking down city streets or making visits.

These patients provided a significant economic boost to Albuquerque. Medical suppliers, grocery stores, laundry services, pharmacies, and doctors' offices proliferated. And, of course, funeral homes.

More importantly, many recovered lungers stayed, becoming some of the city's most important leaders and outstanding citizens. They included Carrie Wooster, whose then suitor Clyde Tingley, would become the city's flamboyant mayor and New Mexico governor; John Milne, who was APS school superintendent for 45 years; Clinton Anderson, who was a notable U.S. Senator and member of Truman's cabinet; France Scholes, vice president of UNM; Grace Thompson Edmister, who founded and conducted the Albuquerque Civic Symphony; architect John Gaw Meem; and Kathryn Kennedy O'Connor, who started Albuquerque Little Theater.

Two recovering tuberculars would have a major impact on health care in Albuquerque. Dr. William Lovelace started his Albuquerque practice in 1916. Lovelace was intrigued with the Mayo Clinic and the concept of a multi-specialty clinic. In 1922 Edgar Lassetter, another doctor with tuberculosis, joined his practice, and they saw patients in a small office over a dry goods store on Central Ave. That year they founded Lovelace Clinic, which would grow into a multi-specialty practice based on the Mayo model. By 1940 they had 16 specialists.

TB facilities were still busy before World War II. Southwest Presbyterian Sanitorium had expanded to include a large complex of buildings and continued to draw

patients from around the country and even from Europe and Asia. The U.S. Indian Service built the Indian Sanitorium in 1934 for $500,000 and provided free treatment to Indian TB patients. In 1931 the Lutheran Church took over the operation of the privately operated Albuquerque Sanitorium, which had started in 1908.

Modern Health Care

The Sisters of Charity continued operating St. Joseph Sanitorium, but by 1927, Albuquerque's population had reached 36,000, and the Sisters began building a new hospital to accommodate the growth. The $500,000 facility opened in 1930 with 152 beds, three operating rooms and dining rooms.

When new antibiotics reduced the threat of tuberculosis in the 1940s, some of Albuquerque's sanitoria evolved as modern health-care facilities; others closed their doors.

In 1954 the Sisters of Charity closed St. Joseph Sanitorium, and it became a convent. By the 1960s Albuquerque's population had reached 350,000, and the Sisters decided it was time for a new hospital. They broke ground in 1966 for St. Joseph Medical Center and demolished the former sanitorium to make room. The new, 12-story, $10.8 million facility opened in 1968. It would continue to add facilities and become St. Joseph Healthcare System.

Lovelace Clinic also continued to grow. In 1946 William Lovelace's nephew Randy Lovelace joined his uncle, and they organized the nonprofit Lovelace Foundation for Medical Education and Research. The clinic built a new facility in 1949 on the Southeast Mesa, and Randy Lovelace persuaded the Methodist Church to build Bataan Memorial Methodist Hospital next door in 1952.

In 1975 the clinic and hospital merged with Lovelace Medical Foundation and evolved as Lovelace Health Systems. In 1991 the medical center and health plan were sold to a private health-care provider, and the foundation spun off as The Lovelace Respiratory Research Institute as a nonprofit. Today the institute continues the legacy of health-care research focused on the lungs, which began in the last century.

In 2002 Ardent Health Services acquired St. Joseph Healthcare System on its 100th anniversary and a year later acquired Lovelace Health Systems. Ardent joined the two to become Lovelace Sandia Health System.

In the early 1950s, Southwestern Presbyterian Sanatorium's board decided to hire a new administrator and change the focus and the name. It became Presbyterian Hospital Center. In 1960 Presbyterian Hospital expanded, and the early complex was largely demolished. Through the 1970s the hospital continued to grow, adding other facilities. Today Presbyterian Healthcare Services continues to be a not-for-profit corporation with facilities and services across the state.

Resources:

Simmons, Marc. Albuquerque: A Narrative History.

Lesson Plan: Tuberculosis

By Tracy Robert

Objective: Students will develop a basic understanding of tuberculosis as a serious, life threatening disease.

New Mexico Standards: Science
Strand III: Science and Society
Standard I: Understand how scientific discoveries, inventions, practices, and knowledge influence and are influenced by individuals and societies.
Benchmark I: Explain how scientific discoveries and inventions have changed individuals and societies.
Performance Standard 7.2: Analyze how technologies have been responsible for advances in medicine (e.g. vaccines, antibiotics, microscopes, DNA technologies).
Performance Standard 7.3: Describe how scientific information can help individuals and communities respond to health emergencies (e.g. CPR, epidemics, HIV, bio-terrorism).

New Mexico Standards: Social Studies
Strand I: History
Benchmark I-A: Explore and explain how people and events have influenced development of New Mexico up the present day.
Performance Standard 7.6: Explain the impact of New Mexico on the development of the American West up to present, to include:

- Availability of land (e.g. individuals, railroads, automobile)
- Transportation (e.g. wagons, railroads, automobile)
- Tultural interactions among indigenous and arriving populations and the resulting changes
- Population growth and economic patterns
- Identity and use of natural and human resources

Strand II: Geography
Benchmark II-C: Understand how behavior affects human-made and natural environments, recognizes past and present results and predicts potential changes.
Performance Standard 7.1: Explain how differing perceptions of places, people, and resources have affected events and conditions in the past.
Benchmark II-E: Understand how economic, political, cultural and social processes interact and shape patterns of human populations and their interdependence, cooperation and conflict.
Performance Standard 7.3: Explain the accessibility to the New Mexico Territory via the Santa Fe Trail and the railroad, conflicts within the indigenous peoples and the resulting development of New Mexico.

Materials:

- Teachers Resource Guide history background, “Tuberculosis”
- Computer with Internet access for ongoing teacher or student research

- Poster board or construction paper
- Markers

Anticipatory Set:
Teacher will lead class discussion on serious diseases. Ask students to name diseases or illnesses they believe to be serious or life threatening. Teacher will list these ideas on the board. If there is any question on whether a disease is life threatening, it can be revisited when the list has been completed. The class will place these disease labels into categories such as "viral" and "bacterial," or "contagious" and "not contagious" as purpose and student need dictates. This can be done as a whole class, with the teacher writing student ideas on the board; or students can work with partners to write the words on their own paper and then share results with the class to come to a group consensus.

Instruction:
Teachers will use history background, "Tuberculosis," as well as information from the cited online or book resources to lecture or lead lecture and discussion on tuberculosis. Emphasis at this point should include information on the cause of tuberculosis (*mycobacterium tuberculosis*) and its cultural effects as a contagious disease. (Many people got it or were afraid of getting it.)

The Victorians were just beginning to understand contagious diseases and the role cleanliness and sanitary living conditions played in preserving health. Effective antibiotic treatments for TB were not available before the 1940s. Although active treatments such as collapsing lungs and other chemicals were administered, the most effective treatments included sending patients to a "sanitorium," a treatment facility for tuberculosis. This treatment isolated individuals from the general public to avoid the spread of the disease and placed them in an environment with plenty of fresh air, rest, and good food so that the body could heal itself. Sanitoriums offered treatments of the day, but patients also spent much time resting on open sun porches.

Another early name for tuberculosis was "consumption," a word found in turn-of-the-century literature students may have read. Teachers should also emphasize how the sanitorium business affected Albuquerque's population growth from 1900 to 1940. (Patients, recovering patients, their families, and medical staff came to Albuquerque, and after they recovered, they stayed.)

Science teachers using this lesson may want to include more information about infectious diseases and the history of microbiology. Social studies teachers using this lesson may want to emphasize the social impact of infectious disease and more Albuquerque history from 1900-1940. Teacher may want to copy the Albuquerque Journal article and have students read it aloud or in groups to further their understanding of tuberculosis.

Guided Practice:
Students will answer why Albuquerque was such a popular place to send tuberculosis patients by 1925. Students may work in discussion groups of 2-4 or teachers may lead a whole class discussion to establish 5 reasons why Albuquerque was a tuberculosis haven. Reasons may include access by railroad; warm climate with thin, dry air; multiple

sanatoria that could treat charity cases and patients of different ethnicities; doctors and nurses; support services such as laundries and medical supply stores.

Independent Practice:
Students will work individually or in partners to create posters on construction paper or poster board advertising their fictitious sanitorium in Albuquerque in 1925. They will make up a name for their sanitorium and create a bulleted list of services and benefits for out-of-state tuberculosis patients to come to Albuquerque for treatment. Students may want to draw a picture or sketch of their sanitorium, showing Victorian or brick architecture. They may also want to note living choices available to family members, emphasizing that Albuquerque is a warm, comfortable place for nonpatients to live while a patient is receiving treatment. Albuquerque offers housing, grocery stores, laundry facilities, and even opportunities for higher education and regional travel to Santa Fe and the pueblos.

Closure:
Teacher will lead a 10-30 minute lecture or lecture and discussion on the modern problem of tuberculosis and current treatments. Students may have heard about the current epidemic. Medicines are now available to treat tuberculosis so that it is not the fatal disease it once was if a patient seeks medical care and follows the prescribed treatment.

Evaluation:
Teacher will evaluate students based on the information on their posters. Students should demonstrate knowledge of the reasons why so many people came to Albuquerque specifically for TB treatment. Factual information should be accurate.

Extended Practice:
Teacher may want to continue this activity with research on Presbyterian or St. Joseph or other Albuquerque hospital systems that were originally founded as sanitoria.

Resources

Web:
History of Tuberculosis and Treatment (most recommended site for this project)
http://www.umdnj.edu/~ntbcweb/history.htm
Modern Definition, Symptoms and Treatment
http://www.netdoctor.co.uk/diseases/facts/tuberculosis.htm
Modern Issues with Tuberculosis
http://www.niaid.nih.gov/factsheets/tb.htm
Central Avenue/Albuquerque History
http://www.cabq.gov/aes/s2p2hist.html
Albuquerque Journal, April 10, 2005
http://www.abqjournal.com/tricent/320934shock04-10-05.htm

Books:
Landau, Elaine. Tuberculosis.
Other Book Lists: http://cabq.gov/museum/history/historyresources.html

Who was that?
Place Names in Albuquerque

Who was Alvarado? Who was Eubank?

One way we remember our finest citizens, our highest achievers, our greatest spirits is to name something after them. We may see names on buildings, parks or streets and wonder who they were. If you attended an event at Milne stadium, did you ever wonder who Milne was? Or who Tingley was?

Let's go for a ride around Albuquerque and think about names that have become familiar.

Who's Who in Old Albuquerque

The first Europeans to see the Middle Rio Grande Valley were soldiers led by Captain **Hernándo de Alvarado**. They were the advance guard for the explorer Francisco Vázquez de Coronado. Alvarado named the mountains he saw the Sierra Nevada and the river the Nuestra Señora. Those names didn't last, but Alvarado's did. Because Alvarado is our version of Columbus, his name is on many things, including the city's transportation center and an elementary school. The Alvarado was also the name of a fabulous, historic hotel next to the railroad tracks; the Santa Fe Railway tore it down in 1970.

The **Candelaria** family was one of the first to settle in Albuquerque in 1706. The major arterial, Candelaria Road, is named for them. On the other hand, nobody seems to know who **Juan Tabo** was. According to one account, he was a shepherd who grazed his flock in Tijeras Canyon. The name may also relate to the Toboso Indians of Texas or to Jemez Pueblo.

Another early settler was **Juan Griego**, or John the Greek, who accompanied Don Juan de Oñate's party of colonists to New Mexico in 1598. (The Spanish word for "Greek" is "Griego.") His descendents settled in the North Valley, and the community Los Griegos was named for them, as was Griegos Road.

In 1712 the governor gave 70,000 acres to Captain Diego Montoya, who then gave it to **Elena Gallegos**, widow of Santiago Gurule. (In colonial New Mexico women often took back their maiden names when they were widowed.) Unlike other European nations, Spain allowed women to own land without consent or control of their husbands. The Elena Gallegos Land grant stretched from the river to the base of the Sandias, where today a recreation area bears her name.

Elfego Baca, a Socorro candidate for sheriff who survived a one-man stand against dozens of Texas cowboys in 1884, became a lawyer and district attorney. In 1907 he moved his law practice to Albuquerque and had his combined office and home on

Gold St., where he died in 1945. Even as an old man, he always wore a gun. Walt Disney Studios created "The Nine Lives of Elfego Baca," which showed from 1958 to 1960. And he has a street in the Atrisco neighborhood named for him.

Dr. **Elijio Osuna** and his wife came here in the 1890s from Monterey, Mexico. He not only delivered many babies, he was also a coroner. His oldest daughter, Anita Osuna y Martínez de Carr, was the first Hispanic woman on the UNM faculty. In 1945 Osuna Road was named for the good physician.

When the railroad entered New Mexico in the 1870s, town boosters understood that it would change Albuquerque's fortunes forever if it could be routed our way. Merchant **Franz Huning**, grocer **Elias Stover** and attorney **William Hazeldine** formed a real estate firm that quietly bought up all the land in or near the right of way and deeded it to the railroad for one dollar and a share of profits from sale of lots. They prospered in the deal, but they also guaranteed the railroad would come to Albuquerque in a period after the railroad had bypassed Santa Fe and Bernalillo.

Soon after, Huning began building Albuquerque's first suburbs, the Highland Addition, east of the tracks, which came to be called Huning Highland. The streets south of Coal and Iron were Hazeldine and Stover. Arno, west of Broadway, is named for Huning's son. Nearby, Cromwell is named for **Oliver Cromwell**, a business associate of the three who started a trolley system.

Edmund G. Ross in 1869 was the U.S. senator who cast the deciding vote in Congress against impeachment of President Andrew Johnson. Ross resisted enormous pressure to impeach Johnson because he believed it would cause permanent damage to American government. But voting his conscience was political suicide. He came to Albuquerque in 1882 to escape but soon was dabbling in politics and in 1885 was appointed territorial governor. He signed the legislation creating UNM. An elementary school is named for him.

In 1889, as a member of the Territorial Senate, attorney **Bernard S. Rodey** was the driving force behind legislation to create the University of New Mexico and was also instrumental in securing its land. He was also a leader in the push for statehood and represented New Mexico in Congress. Rodey Theatre at UNM is named for him.

Naming Names in the 1900s

John Milne served as the Superintendent of Albuquerque Public Schools from 1911 to 1956 and is credited for establishing a modern, professional and progressive school system. Under his guidance APS grew from 5 schools and 1,600 students to 63 schools with 40,000 students. He purchased hundreds of acres of land when no one thought Albuquerque would ever stretch to the Sandia Mountains or west of the river. The district's first football and track stadium, Milne Stadium, is named for him. (Wilson Stadium is named for F.M. Wilson, a long-time educator and principal.)

Clyde Tingley came here in 1911, accompanying his sweetheart Carrie Wooster and her mother. Carrie had tuberculosis and they were looking for a city with a warm, dry climate. Tingley ran for City Commission in 1916 and thrived in local politics. He was commission chairman (the de facto mayor) three times and governor of New Mexico from 1935 to 1938.

During the Depression, the flamboyant Tingley cultivated a friendship with President Franklin Delano Roosevelt and proved extremely resourceful in getting Works Progress Administration and other relief funding into the state. In this way the first airport terminal, the State Fairgrounds, schools, UNM's library and administration building, Monte Vista Fire Station, Roosevelt Park, and many other projects were built. Tingley Beach, Tingley Coliseum and Tingley Drive are named for him.

His wife, **Carrie Tingley**, was known for her personal generosity and attention to the sick, the dying and to children. Carrie Tingley Hospital is named for her.

Dr. **William Lovelace** came here to recover from tuberculosis and started his Albuquerque practice in 1916. His multi-specialty practice, Lovelace Clinic, grew steadily until 1940, when he had 16 doctors. In 1946 his nephew **Randy Lovelace** joined, and they organized the nonprofit Lovelace Foundation for Medical Education and Research. The clinic built a new facility in 1949 on the Southeast Mesa, and Randy Lovelace persuaded the Methodist Church to build Bataan Memorial Methodist Hospital next door in 1952.

In 1975 the clinic and hospital merged with Lovelace Medical Foundation and evolved as Lovelace Health Systems. In 1991 the medical center and health plan were sold to a private health-care provider, and the foundation spun off The Lovelace Respiratory Research Institute as a nonprofit.

In 1940, famous war correspondent **Ernie Pyle** made Albuquerque his home – in between his assignments. He died on a Pacific island in 1945 from a sniper's bullet. He's remembered with the Ernie Pyle Memorial Library, Albuquerque's first branch library, created at his home on Girard in 1948. And a middle school is also named for him.

Street Names

Many of Albuquerque's major streets were named for local individuals.

- Menaul Boulevard originally led to Menaul School, named for Irish-born **James A. Menaul**, who came to Albuquerque in 1881 when the population was 2,200. He organized First Presbyterian Church. In the late 1800s a Presbyterian training school was named for him.
- Eubank Boulevard was named for Lt. Col. (later general) **Eugene L. Eubank** who was commander of the 19th Bombardment Group here. He led 100 bombers on a flight from California across the Pacific during World War II.
- Montgomery Boulevard was named for **Eugene Montgomery**. His family homesteaded on land near what is now Carlisle and Montgomery around 1909, when there were 7,000 people in Albuquerque.
- Spain is named for Dr. **Charles R. Spain**, APS school superintendent from 1957-1965.

- On the West Side, Taylor Ranch and Taylor Ranch Road were named for **Joel and Nina Mae Taylor**. In 1939 the Taylors, then living on his father's homestead in Chama, bought 800 acres of land west of the river and lived in a two-room adobe house where the La Luz subdivision is now, near Montaño Place and Coors Road. This place became their winter haven away from snowy Chama, and there is now a street called Winterhaven there. In 1973, the Taylors sold 300 acres to Bellamah Corp., which created the Taylor Ranch subdivision.
- **Dale Bellamah**, son of Lebanese immigrants, built thousands of houses east of Eubank and left the symbol of a bell imprinted in the concrete. A park and street are named for him. He called his wife Princess Jeanne, and a shopping center, a subdivision and a street have that name.
- You might think Coors is named for the Colorado brewing family, but it's not. It was named for **Henry G. Coors** who was a district attorney and judge in the 1940s and early 1950s.

Modern Albuquerque

A number of facilities are named for public servants. U.S. Sen. **Dennis Chavez** served from 1935 to 1962 and was instrumental in initiating the San Juan-Chama Diversion Project that will deliver water to the city in 2008. A park near I-25 and Gibson bears his name as well as an APS elementary school. In 1966 Chavez, who died in 1962, was honored with a statue in the Capitol Statuary Hall in Washington D.C. as well as a postage stamp in 1991.

U.S. Sen. **Joseph Montoya** served from 1964 to 1977. The Northeast Heights TVI campus, the Montoya campus, is named for him. U.S. Sen. **Pete Domenici** was recently honored by having the new downtown Federal Courthouse named for him.

U.S. Rep. **Steve Schiff** served 10 years and died while in office. His name was given to a post office near Candelaria and Eubank. In 1974 **Harry Kinney** was the first mayor elected under the new city council-mayor form of government. A flood control dam near La Cueva High School is named for Kinney.

State Sen. **Z.B. Moon** served in the 1930s. The street is named for Moon or his family, who were long-time residents.

Alice K. Hoppes, the long-time president of the NAACP in Albuquerque, was instrumental in getting Martin Luther King Jr.'s birthday made a state holiday and in getting a state Office of African American Affairs. Growing up in Tucumcari, she was the only black student and chafed at being excluded from the public swimming pool, having to sit in the balcony of the movie theater and listening to a teacher tell racial jokes. She died in 2004 at 64. The African American Pavilion at the State Fair is named for her.

The military gave us a number of place names in Albuquerque. The developer of Academy Estates in the Northeast Heights chose admirals' names for streets: **Admiral George Dewey** was a hero of the Spanish-American war in 1898; **Admiral William "Bull" Halsey** was a leading naval commander during World War II; **Admiral Chester William Nimitz** commanded the Pacific fleet during World War II; and **Admiral Hyman Rickover** created the Navy's nuclear submarine fleet.

Another developer named streets in the Park Addition, also in the Heights, for generals – Arnold, Bradley, Chennault, Hodges, Marshall, Patch, Somervell, and Stillwell.

The world of sports gave us a number of names. In the 1940s the **Unser** family operated a wrecking service at Unser Garage on 7700 Central SW. The family has raced in every Indianapolis 500 except one since 1964 and won nine times. The small dirt street adjacent to their family home was named Unser.

In 1979 homebuilder Coda Roberson developed the Westwind Subdivision on the West Side and named streets for football stars – Namath, Staubach, Landry, Grogan, and Kilmer.

APS schools take their names from a variety of sources.

Many elementary schools are named for local educators. For example, **Susie Rayos Marmon**, was one of the few Indian girls of her time to pursue an education. She was educated at Menaul School in Albuquerque and Carlisle Indian School in Pennsylvania, graduating from Bloomsburg State Teacher's College in Pennsylvania in 1906. For nearly 50 years she taught in a one room building behind her home in Laguna Pueblo and often served as an advocate for higher education. In 1971 the North American Indian Women's Association named her the Outstanding Indian Woman in Education. She died in 1988 at age 110.

John Baker, a champion runner at both Manzano High School and UNM, won so many races against heavily favored opponents he was dubbed "Upset John." He became a coach at Aspen Elementary School. Training for the 1972 Olympics, he collapsed one day and learned he had terminal cancer. Baker said nothing but kept coaching and gave the Duke City Dashers, a girls team, the last of his energy. He died in 1970 at age 26. The same week the Dashers won the AAU national cross-country championship in St. Louis. His life inspired a book, "The Shining Season," along with two movies. He was so revered that, at the request of his students, the school was renamed in his honor.

Other schools are named for anthropologist (Adolph) Bandelier, soldier and trader Kit Carson, New Mexico colonizer (Juan de) Oñate, and artist Georgia O'Keeffe.

Most of UNM's buildings honor former presidents, faculty, and coaches: Hodgin Hall for **Charles Hodgin**, the first APS superintendent; Zimmerman Library for President **James Zimmerman**, who expanded enrollment and constructed facilities throughout the Depression; Popejoy Hall for President **Tom Popejoy**, who led the development of UNM's schools of medicine, pharmacy, nursing, law and business in the 1950s and 1960s; and Johnson Gym for Coach **Roy Johnson**, who coached every sport at UNM from 1920 to 1959.

Some names are familiar because a well known business carries the name of a founder. For example, **Louis Galles** came to New Mexico in the 1880s as a soldier and in 1900 bought one of the first automobiles in the state. In 1908 he started Galles Motor Co., the city's first car dealership.

Or Mr. Powdrell's Barbeque House, started in 1969 by **Pete Powdrell** and passed to his sons.

Resources:

Garcia, Nasario. Albuquerque Feliz Cumpleaños! Three Centures to Remember.

Gill, Donald. Stories Behind the Street Names of Albuquerque, Santa Fe & Taos.

Rebolledo, Tey Diana, et al. Nuestras Mujeres.

Sando, Joe. Pueblo Profiles.

Simmons, Marc. Albuquerque: A Narrative History

Lesson Plan: Albuquerque Place Names

By Steve Schripsema, Hayes Middle School

Objectives: Students will identify and research significant people from Albuquerque history, recognizing the diversity of people and their contribution to our city.

New Mexico Standards
Grade 7 Standards for Social Studies: I-A, I-D, and III-B
Grade 7 Standards for Language Arts
Reading Strategies: Performance Standards 1, 2
Research Application: Performance Standards 6, 7

Background: Share this background report with your students, or use specific examples that will give your students the necessary background for understanding the purpose of this activity. Lead a class discussion about famous people and how they gained fame. What are some examples, locally and internationally?

Famous Albuquerqueans

"Fame" means "having reputation and recognition and being widely known." Usually it means being known favorably and being held in high honor. Sometimes a person is well known to only certain groups of people and not the entire community. A person may be famous for just a short time. Sometimes a person had their "15 minutes of fame," but now no one knows who they are! There are many well known Albuquerqueans, past and present!

A person can be famous for many reasons, but it's usually for something that person did to make Albuquerque a better place. It could be a single act of heroism or sacrifice or years of public service. We often honor elected officials, athletes, educators, business people and philanthropists. Other times we recognize someone who overcame a physical disability or fought for human or civil rights.

Sometimes people are not truly famous but their names have become familiar because a library, park, or school has been named for them. There are also names on streets, community centers, soccer fields, court houses and post offices. Many times facilities take on a person's name while the person is still living, but sometimes the name comes as a way to honor someone after his or her death. Many landmarks in Albuquerque identify the names of significant people in our city's history.

Questions:

- Can you identify any places nearby that honor an individual?
- Have you participated in activities at any places named in the background report?
- Can you name other famous people from Albuquerque?
- At your school different areas such as a patio, gymnasium, library, media center might honor a person with a name. What are the origins of your school's name or other memorials on your campus?
- How many streets can you name in your neighborhood. Identify those that might have some significance to Albuquerque's history.
- What local businesses were named for an individual?

By exploring your neighborhood and Albuquerque as a whole, you will be sure to find ideas for people you can learn more about. The following activity will engage your students in finding out more about important people in Albuquerque's history.

Activity: Biographical Trading Cards

Materials:

- Photocopies of various profiles and biographies (see Resources)
- Photocopies of "Double Entry Journal" (1 or more per student)
- 2 1/2 x 3 1/2 card stock (standard for trading cards but could be cut to any size, 1 per student)
- Baseball cards to use as an example.

Step 1: Select an individual for study

Students should select an individual who will interest them. A good starting point would be the names in the attached background report, but there are many more biographical profiles found in the resources listed in Step 2 and in the background report. Make copies as needed to cover as wide a variety of people significant to Albuquerque's history as you can.

Step 2: Identify resources

Here are some sources of information:

- Sometimes there is a plaque with biographical information about the person located at that facility.
- The archives of the Albuquerque Journal and Albuquerque Tribune are on microfilm at public library branches. You can look up the name to learn what month, day and year the article appeared.
- New Mexico Magazine and the New Mexico Historical Review have many articles about famous people, which you can find through each magazine's index.
- See books listed in the background report, along with "Rio Grande Stories" by Carolyn Meyer.
- Talk to your school librarians about other resources.

The Rio Grande Public Library System is a tremendous resource for finding information about Albuquerqueans. The Albuquerque Special Collections Library at Edith and Central NE has copies of the City Directory going back decades, along with the Albuquerque Journal obituaries and the United States 1910 Census. It also has thousands of books, magazines and newspapers from the last 100 years, plus microfilm of many records from the State Archives and the Archdiocese of Santa Fe.

Speakers are available from the New Mexico Humanities Council. Speakers can be booked online at www.nmeh.org for a nominal fee. The Tricentennial also has two speakers bureaus. See www.albuquerque300.org.

Step 3: Reading and creating a double-entry journal

(A reproducible copy is found at the end of this lesson.) The double-entry journal is a tool used to enhance research and promote original thinking during information gathering. It features a rudimentary bibliography and is a simple tool that virtually all levels of readers can use and learn quickly. It also provides a foundation for original essay writing.

A. Give each student a copy of the worksheet.

B. Student fills in the bibliography. Additional sheets can be used if a student researches from more than one source. This is a good opportunity to discuss citations and giving credit for ideas.

C. Brainstorm a focus question or topic to set a purpose for reading. For example, "What are his contributions to history?" "How did she change Albuquerque?" or "Why did he come to Albuquerque?" Additional pages can used to expand the research or explore more topics.

D. As students read their biographies, they jot down in the first column directly quoted facts that they feel relate significantly to the question or topic.

E. In the second column, students record their own ideas about the quote. These could include a personal reaction, a conclusion, something it reminds them of, or an original idea that ties it to a current event. This is purposely left open ended to encourage critical thinking about the subject, topic, or question.

F. The double entry journal page(s) may be used to assess student literacy and research skills and provide the basis for creating biographical trading cards (Step 4)

G. An option at this point would be to use the notes as starting points for essay writing.

Step 4: Biographical trading cards

Middle level students are familiar with trading cards and find them to be an exciting alternative to typical writing assessments. They follow the same format as baseball or other sports trading cards and examples should be shown so that students understand the expectations if they are unfamiliar with trading cards. The goal for this part of the assignment is for each student to make a different card with information that can be shared with others in the class, enhancing their understanding of Albuquerque's VIPs.

A. Give each student a 2 1/2 x 3 1/2 (or size determined by you) card.

B. The front side should have an illustration of the person they studied. It should be as accurate as they are able to draw and color. The subject's name should be prominent on the front of the card as well.

C. The reverse side of the card is reserved for facts, personal information, date of birth, country or state of origin, and any other highlights appropriate for that particular individual. The easiest way to do this is on a word-processing program using small fonts, but students are often able to cram large amounts of information into a small space with pencil or pen when motivated.

D. When the cards have been completed, group students together and have them exchange the cards to learn more about famous Albuquerqueans. Create a class binder with everyone's card to be brought out when an individual is discussed during subsequent lessons, or to display during open house activities.

Extension: Investigating Personal History

Sometimes students see history as something totally disconnected from themselves and the things that are important to them. Albuquerque's Tricentennial celebration is an opportunity for students to study their own histories to see how their families fit into Albuquerque's story—whether their family has been here one day or 100 years.

The study of ancestry and family history is called "genealogy," from the Greek *genea*, for generation. Students can begin researching their own past – and learn about oral history – in interviews with family members. They can learn about what brought their families to Albuquerque, listen to family stories about significant family events and become aware of the struggles of previous generations.

Technology and computers are providing new tools for family research. Churches, especially the Catholic Church and the Mormon Church (Church of Jesus Christ of Latter Day Saints) have sizable repositories of information. Churches recorded baptisms, marriages, and funerals. And, with advances of technology, computer programs and the Worldwide Web are making it easier.

A family tree is a good way for students to begin thinking about their ancestry. Family tree comes from the idea that a tree begins with one trunk, then produces many branches. The family is the same way, with literally hundreds of descendents possible from one original couple. Consider having students create and fill out an ancestry chart listing all the brothers and sisters of their parents and grandparents. That can be used to compile a list of statistics.

Students may add questions such as:

- How many living relatives do you have?
- What is the average life span of people in your family?
- Who lived the longest?
- What is the origin of your last name? Sometimes a person's last name reflects the area they came from.
- Which relative was born the farthest from where you live? The use of a "Direct Ancestry Chart" can help the student to begin their journey.

,Every classroom represents a variety of family situations with many children coming from single-parent home, blended families, or being raised by grandparents or foster parents. Some children are adopted. Teachers must be sensitive toward their particular mix of students. Be careful to respect each child's right to privacy.

Many websites and local organizations are devoted to helping individuals create a genealogy, and/or family tree. Here are just a few:
http://www.pbs.org/kbyu/ancestors/teacherguide/ (an online research guide for teachers and students)
http://pbs.org/wgbh/amex/1900/sfeature/index.html (printable family tree)
http://rootsweb.com (contains links to various websites for creating genealogies)
http://www.nmgs.org (New Mexico Genealogical Society has information and links to ancestor research; a very basic history of New Mexico; pedigree charts; programs and current projects related to genealogy)

Author (Last, First) _____, Title: _____
City of Publication: _____, Publisher:_____,
Year: _____

DOUBLE ENTRY JOURNAL

PERSON/Biography: _____

Question/Topic_____

	Quote	Original Thoughts/Reactions
1.	_____	1. _____
2.	_____	2. _____
3.	_____	3. _____
4.	_____	_____

Where I Live
Villages and Neighborhoods

Albuquerque enjoys a variety of neighborhoods that reflect the city's people, history, growth and development. Some are home to ethnic communities, and others are ethnically diverse. Some are decidedly urban; in others, residents wake up to a rooster's crow. They are historic or modern, close to nature or close to the freeway. They may take their character from downtown, UNM or the volcanoes.

How would you describe your neighborhood?

Boundaries and Dividing Lines

Albuquerque has three distinct dividers – the Rio Grande and the two Interstate highways. The river creates an East Side and a West Side that must be crossed by bridges. Albuquerque has eight bridges along its 15 mile length, and at least one has been controversial. Other major land forms, such as arroyos, golf courses and the volcanic escarpment, divide areas. Arterial streets such as Coors, Montgomery, or Paseo del Norte create barriers and boundaries.

Some neighborhoods are laid out in grids. As early Albuquerque grew east, you find the streets in straight lines running east-west and north-south. Neighborhoods in that area are defined by a traffic light or four-way stop every one-half mile. This is because early planners were recreating in Albuquerque the street systems they were accustomed to elsewhere.

Street Numbers

The system of giving a numerical address to all structures in Albuquerque begins at Central Ave and the railroad tracks. That creates our four quadrants of northeast, southeast, northwest and southwest, which also offers clues about location. For every block north or south of Central, or east and west of the Railroad tracks, the number grows by 100. So the 1200 block of Lomas NW is 12 blocks west of the Railroad tracks. The 5800 block of San Mateo NE is 58 blocks north of Central.

Oldest Neighborhoods

The city that now reaches from the volcanic escarpment to the Sandia and Manzano mountains, from Sandia Pueblo to Isleta Pueblo started out as a loose collection of farms along the river in 1706. Not until the late 1700s were some houses built near San Felipe de Neri Church in what we now call Old Town, and people only lived in them on Sundays. After its first 100 years, Albuquerque began to look like a village.

Atrisco on the West Side is even older than Albuquerque. It too was a collection of farms and ranches, founded in 1703 as a Spanish Land Grant.

As Albuquerque grew and new settlers entered the area, they formed tiny communities named for the most prominent family. In following decades Albuquerque had

such satellite communities as Los Duranes, Los Candelarias, Los Griegos, Los Montaños, Los Poblanos, and Los Gallegos. Most were annexed to the city in the late 1940s.

Los Barelas is typical of these enclaves. Around 1825 Antonio Sandoval, a rancher, dug an extension of the old Griegos-Candelaria Ditch across the valley and south along the sand hills at the valley edge to bring water to the fields south of Albuquerque. More farmers moved in, and soon a small village was formed, called Los Barelas after the largest family in the area.

In the North Valley, Alameda is named for an Indian pueblo that once existed in that area.

We know these places now as neighborhoods. Other villages have retained their identity as communities.

Corrales, named for the corrals of landowner Juan González, dates from the 1700s. It remained a Spanish farming village until after World War II, when artists and writers began to restore old adobe houses.

In 1763 San Miguel de Carnué started on a Spanish Land Grant east of Albuquerque.

Martineztown started when families in the 1800s drove their herds east to the sand hills for summer grazing and camped. The area had a large acequia. Around 1850, Manuel Martín and his wife Anna María decided to settle permanently, and the area came to be known as Los Martínes, and later, Martineztown. Today Martineztown is bounded by Broadway, I-25, Martin Luther King Blvd. and Mountain Road.

After the Railroad

After the railroad came in 1880, Albuquerque began growing quickly. As Americans moved into what had been a Spanish outpost, they began to transform the town in the image of places where they lived before.

The railroad spawned a second town, as stores and saloons sprouted along the tracks in tents and hastily built shacks. Soon the new commercial district gained permanent structures of brick and brownstone. It became known as New Town, and the original community became Old Town.

The first developers hired civil engineer Walter Marmon to design and lay out the streets of New Town. A Midwesterner, Marmon stuck with the familiar. He laid out a grid of numbered north-south streets and named east-west streets after minerals – gold, silver, coal, lead and iron. Local boosters were hopeful that Albuquerque would become a transportation center for the mines. He named the main street parallel to the railroad tracks Broadway because he thought a proper city should have a Broadway. The major arterial was already called Railroad Avenue (later renamed Central Avenue).

A growing community needed new housing. In 1880, the same year the railroad arrived, Franz Huning started his Highland Addition east of the railroad between Copper and Iron. It was Albuquerque's first master-planned suburb. Huning’s new subdivision, with its Midwestern-style Queen Anne homes drew merchants, doctors and professionals. (After a period of decline, the neighborhood is now fashionable again and many of the century-old homes are renovated. Huning Highland was named a national historic district in 1979 and a city historic overlay zone in 1981.)

The second housing development was the Perea Addition of José L. Perea, better known as the Downtown Neighborhood District, west of New Town in 1881.

In 1881 Sister Blandina Segale wrote: “I predict this Old Town Albuquerque will not long remain the metropolis.” Two years earlier when she arrived here, “there was not a house where the railroad station is now but the houses are springing up like mushrooms.”

East of the Perea Addition was McClellan Park around Fourth and New York (now Lomas). Now home to the Federal Courthouse, this was a thriving turn-of-the-century residential neighborhood. It disappeared as auto dealerships grew along Fourth Street, which was a part of Route 66 through Albuquerque for a time, and railroad-related warehouses went in near the tracks. You can still see a few of the modest and charming older houses tucked away on First, Second, and Third streets.

In 1891 wholesale grocer Martin Stamm filed a plat for the Terrace Addition to sell house lots south of Central to Hazeldine and east of the city limits to Buena Vista, in the area of present-day TVI. Local people thought it was too far away; it then took an hour by horse and buggy to get there. This addition includes the Silver Hill neighborhood west of Yale on Gold and Silver.

As the century turned, one new convenience that stimulated early subdivisions and suburbs was the streetcar. Promoters in those days bought up real estate as a way to promote their transportation companies. Albuquerque Traction Co., organized by in 1903, proposed a loop around the business district and land where it had lots for sale.

Early Growth

In those days a good rain in the Sandias could turn into a flash flood that plunged across the East Mesa through arroyos on its way to the river. Despite that risk, builders continued adding neighborhoods east of downtown.

D.K.B. Sellers was one of the busiest developers of the period. In 1906 he built University Heights south of Central from Yale to Girard. He described it as the “coming aristocratic section of Albuquerque.” The next subdivision was the Valley View Addition in 1911.

Both were well outside city limits on the East Mesa. Promoters offered clean air (“Escape the Coal Smoke of Downtown”) and rural life, and the automobile made commuting possible.

In the early 1900s American Lumber Co.’s sawmill north and east of Old Town began processing logs from the Zuni Mountains in western New Mexico. By 1908 it was the largest manufacturing company in the Southwest. It employed more than 1,000 men in Albuquerque. Nearby workers built their homes of wood or adobe. This became the Sawmill Neighborhood.

The railroad had a similar impact on the one-time farming community of Los Barelas. The railroad built its shops east of Barelas on what is now 2nd Street. Ultimately the railroad would employ hundreds of men, and new subdivisions sprang up to house them. To this day Barelas has two distinct types of homes – the adobes of the early Hispanic settlers and the later brick and frame homes. (For the Tricentennial, Barelas will be celebrated in an opera commissioned by the New Mexico Symphony Orchestra called “Time and Again, Barelas.”)

In the same way the Eastern Addition, across the tracks from Barelas, sprang up in 1888 to provide housing to railroad workers. Farther south the community of San José began, probably after 1880, when Hispanic and some black workers at the Santa Fe shops and tie-treating plant settled.

After 1910 only one area bordering on downtown remained undeveloped – a swampy area between the old Barelas Road and the Rio Grande. A real estate company platted the Raynolds Addition between Eighth Street and the city limits (roughly at Seventeenth) in 1912, but little building took place until the late 1930s and 1940s because the city didn't have water and sewer lines in place. The neighborhood is now a combination of small houses built in the 1920s and Southwestern style apartment houses built in the late 1930s and 1940s.

As tuberculosis became the leading threat to health, Albuquerque emerged as a health mecca. The first sanitorium took root on the sandy, unpopulated East Mesa, soon followed by more. The University of New Mexico, long the sole occupant of land east of town, now had company.

Housing Boom

The first housing boom was in 1922 with the Country Club Addition, named for the club to the east. Later known as Spruce Park, this neighborhood has a variety of architectural styles from the period between the two world wars.

Development began in 1925 on Grenada Heights on the East Mesa. Parkland Hills, Knob Heights, Monte Vista and College View followed in 1926. Seventeen subdivisions sprouted in quick succession.

In 1928 lawyer William Keleher and contractor A.R. Hebenstreit acquired land from Franz Huning's heirs and platted the Huning Castle Addition, named for the mansion Huning built on Central and Fourteenth in 1883. Swamps made much of the land unattractive for development, but in 1925 the Middle Rio Grande Conservancy organized and began planning projects to control the river and drain marshy lands. Albuquerque Country Club moved from the East Mesa to its current location in 1928, which added cache to the development. They only got a few homes built before the Stock Market Crash of 1929. Most of the homes in this affluent subdivision, which came to be known as the Country Club neighborhood, were built after World War II.

Today, ten historic neighborhoods surround downtown: Old Town, the Downtown Neighborhoods Area (Perea Addition), Sawmill-Wells Park, McClellan Park, Martineztown (Los Martínes), Huning Highlands (Highland Addition), South Broadway (Eastern Addition, San José), Barelas (Los Barelas), the Raynolds Addition, and Country Club (Huning Castle Addition).

Post-War Boom

The city's biggest growth spurt came after World War II. As Sandia Laboratory was born from a division of Los Alamos Laboratory, and the Cold War got into full swing, a massive influx of new residents poured onto the East Mesa, bringing the city's edge to the Sandia Mountains.

Construction began in the late 1950s on two major interstate highways, I-40 and I-25, which intersected near the center of town, helping to secure the city's importance as a major crossroads of commerce. Albuquerque's population swelled from 35,449 in 1940 to 201,189 in 1960, and the once-small Duke City was feeling some big-city growing pains.

In 1950, the city was rapidly annexing land east and north of its borders, and subdivisions were spreading toward the mountains. That year the Saturday Evening Post

wrote of Albuquerque, “New houses go up in batches of 50 to 300 at a time and transform barren mesas before you get back from lunch.” In the four years between 1946 and 1950 the city’s area tripled.

City Commission Chairman Clyde Tingley, back from a stint as governor, urged caution against "checkerboard development" that he said would require more infrastructure than the city could afford. Building continued.

In 1950, Sam Hoffman built the 800-home Hoffmantown Addition north of Menaul and east of Wyoming. In 1953, Ed Snow's Snow Heights Addition followed directly south.

The Bel-Air subdivision, built by Harvey Golightly, initially wanted to incorporate as a separate village. The homes, between Carlisle, San Mateo, Menaul and Candelaria, sold quickly. It was annexed into the city in 1951.

In 1954, Dale Bellamah's 1,600-home Princess Jeanne Park, named for his wife, was built between Lomas and Indian School from Eubank to Juan Tabo. Princess Jeanne offered “wife-planned” homes with fireplaces, spacious patios and such new products as linoleum, Formica and Pulverator disposals.

In the early 1950s Bellamah also built the Kirtland Addition just west of the airport. The first residents were white officers from the base. In 1952 Bill Gooden was the first African American to move in. In a 1991 interview he recalled no problems in integrating the neighborhood: “I met my neighbors on both sides and across the street, and we got along well and we enjoyed living there.”

That encouraged other black families to join them. The affordable but modern homes were a step up for most black residents. Kirtland Addition was a black neighborhood for years, but it’s once again mixed.

West Side

People east of the river sometimes think the West Side just exploded in the last few years. In fact, many West Side neighborhoods are as old as much of the Northeast Heights.

West Side development began in 1951, when homebuilder Leon Watson bought land from Florencio Baca, who had lived there since 1936. The development between Central and Bridge near Coors became Los Altos.

Two other West Side subdivisions date from the post-war boom.

In 1949 the Black family, which owned the Seven Bar Ranch on the West Mesa, sold 8,000 acres to Horizon Land Corp., and in 1961 it began developing Paradise Hills. By 1981 Paradise Hills had 1,800 homes on 12,000 acres and 6,000 residents. The Blacks in 1947 had built a general aviation airport, which became home of Cottonwood Mall.

Taylor Ranch and Eagle Ranch followed in the 1970s.

Resources:

Biebel, Charles D. Making the Most of It: Public Works in Albuquerque during the Great Depression 1929-1942

Davis, Mary. Albuquerque’s Environmental Story: http://www.cabq.gov/aes/

Simmons, Marc. Albuquerque: A Narrative History.

Lesson Plan: Albuquerque Neighborhoods

Talking with Adults in Your Community

By Connie Warren

Subject area: Geography and History

Brief Description: Students will become familiar with the techniques and processes of oral history interviewing.

Introduction

Oral histories are generated when one person (the interviewer) interviews another person (the interviewee) about an important historical event or a specific time period in the interviewee's life. The interviewer takes the interviewee's responses and transcribes them into a format that will relate the point of view of the interviewee. The final project should capture the voice and spirit of the interviewee.

The main goal of this lesson is to give students the authentic experience of the oral history process. This experience is designed to give students a hands-on sense of how history is assembled and how they, acting as the historians, are able to manage the information they obtain. The lesson will be focusing on the stories of people living in Albuquerque and their decisions to move here from another part of the country or city.

Talking with adults in their communities can help students understand how areas change as time passes.

Students will interview a member or members of their community. They will prepare a list of open-ended questions that will allow the community member to give a lengthy answer. They will learn to treat the community member with respect and obtain an understanding of how to identify and interpret primary historical sources.

While working with primary sources is certainly exciting, be fully aware that some sources reveal attitudes and perceptions about ethnic groups that are not complimentary. Rather than protect students from this information, it is better to confront the issues of prejudice and stereotypes and help them understand the context and motivation for such statements.

Objectives:

- Students will learn how to treat interviewees with respect.
- Students will serve as a link between the immediate present and the immediate past in a very understandable and human way.
- Students will be provided a natural opportunity to obtain information related to ordinary people.
- Students will organize information in systematic ways (e.g. timelines, outlines, notes.)

New Mexico Standards: Strand 2, Geography

Standard 2: Students will understand how physical, natural, and cultural processes influence where people live, the ways in which people live, and how societies interact with one another and their environments.

5-8 Benchmark 2-E: Students will understand how economic, political, cultural, and social processes interact to shape patterns of human populations, and their interdependence, cooperation, and conflict.

SS 7.2.2: Describe factors affecting location of human activities, including land-use patterns in urban, suburban and rural areas.

5-8 Benchmark 2-B: Explain the physical and human characteristics of places and use this knowledge to define regions, their relationships with other regions, and their patterns of change.
SS 7.2.3: Select and explore a region by its distinguishing characteristics
SS 7.2.8: Interpret and analyze geographic information obtained from a variety of sources (e.g., maps, directly witnessed and surveillance photographic and digital data, symbolic representations [e.g., graphs, charts, diagrams, tables], personal documents, and interviews).

Materials and Resources:

- Tape recorder
- Paper and pencil
- Computer with Internet capabilities
- Digital camera, video camera

Activities

Preparation:

Share photographs of the school neighborhood in the past and present. You can obtain old pictures from archived photos, old newspapers, and long-time residents. Students can compare the old neighborhood with the present-day neighborhood using a Venn diagram. Students can do this activity in groups or as a class.

Take a field trip by walking around the neighborhood to the locations shown in the photographs**.** Ask students to share the similarities and differences among the places past and present.

Videotape or photograph the neighborhood as it looks today.

Interview Preparation:

Students will need two to three weeks to prepare for their interview. They will need a week to locate the person and set up a meeting time. They will need a week to prepare their questions and do some reading. (See Web site below for detailed information about preparing their questions.)

Explain to the class that they will be interviewing a local businessperson, neighbor, postal delivery people, police, etc. Places that may be helpful in locating interview subjects are senior citizen centers, retirement homes, or other community organizations.

Have students work in pairs so that one can record and write notes while the other student concentrates on asking the questions.

After they have selected a person to interview, ask them to write a paragraph explaining who the person is and why that person is a good choice for this project.

Before conducting the interview, they need to plan the questions that they want to ask. Discuss the kinds of questions that are most appropriate for eliciting narrative-type answers. Have them select and finalize at least 12 questions that they will ask. They will turn these questions in for the teacher to review and for further suggestions.

Think of questions that will illicit a first-hand experience response. Their questions should require more than a yes or no answer. For example, “What was this neighborhood like when you moved here?” And not, “Was this a nice neighborhood when you moved here?”

Other sample questions could include:

- How long have you lived in this community?
- Were there many people here?

- What stories can you tell me about this neighborhood?

Sometimes the person being interviewed has a special story to tell. Ask them directly: Do you have a special story that you would like me to record? Then be prepared for surprising answers!

Have them ask their community members if they have pictures of the neighborhood that they can share with the students.

If computers with WEB access are available direct students to the following WEB site
http://www.teachersfirst.com/ushistory/lesn-ushist.htm

Have them scroll down to Learning About Immigration Through Oral History. This WEB site gives examples and activities for writing open-ended questions.

Make sure they know how to use equipment before they go out for the interview. Have them set a time and place to meet with their interview subject. Be sure to look over their meeting places and make sure that they are working in pairs.

The Interview

Before you start, make sure that you have a blank tape and batteries. Label the blank tape with the date and the person's name. Remind students to be sure to record the name of the person they are interviewing, and their place in the community.

While interviewing the person, make sure to:

- Be on time
- Be prepared. Have questions ready and your pencil and your notebook out.
- Give the interviewee plenty of time to answer the questions. You need to be patient; sometimes answers can take a long time.
- Never argue or correct the interviewee.
- Be polite. Say "please" and "thank you" and always address them formally using Mr., Mrs., Miss, or Ms.
- Ask your interview subject if you can tape record the conversation.
- Begin the interview by asking where and when the person was born.
- If the person wanders from the topic, try to get them to refocus by asking one of your questions.
- Be sure to thank your subject when you are finished. It is important to remember that without their cooperation you couldn't complete this assignment.

Post-Interview

It will probably take a week for students to transcribe their notes or tape. It may be necessary to schedule some time for students to discuss issues or problems that they are encountering while completing their projects.

Students should write a thank-you note to the person for his or her contributions to their oral history project. Students should include at least one positive thing that they have learned and how that has changed their understanding of the community.

Here are pointers for students:

- Listen to the tape and transcribe (write down or type) the most important parts of the interview. You will probably have to listen to the tape many times.
- Decide how your group will present the information to the class.
- An exact transcript of what the interviewee said is not necessary. Edit the transcript by moving parts around, taking parts out, and even adding information here and there (of course with the interviewee's permission.)
- The information can be presented in a timeline format or an outline and notes, questions and answers, etc.

A few days before the oral histories are due, have the students work in groups of four and have them read each other's work. Encourage the groups to give constructive criticism and compliments. Ask them to pay special attention to grammatical errors. Persuade them to give each other ideas on how to improve the flow and content of each interview.

Assessment:

A timeline for completion of each component of the interview process might be helpful. For example;

- Interviewee contacted
- Interviewee answer received
- Interview date
- Paragraph about the person completed
- Preliminary research completed
- Interview questions completed
- Interview completed
- Interviewer notes completed
- Articles/photos borrowed
- Notes/recordings transcribed
- End product completed
- Journal reflection entry completed
- Thank you note completed

A paragraph about the person that they chose and the questions that they wrote for the interview will be turned in for a grade. Students should give an oral presentation to the class, describing how certain features of their neighborhood have changed over time and how the perceptions of the people they interviewed differed.

Students should have a visual display to show while presenting (e.g. a poster, video clips, pictures, etc.) They should have a reflective journal assignment on how the experience of completing an interview and observing other students' experiences has reshaped their ideas about the neighborhood.

Extension Activities:

- In schools with access to computers, scanners, video cameras, and digital cameras, students can create a multimedia presentation to share with other classes or on the WEB.
- Students can create a historical newsletter for their communities, and insert some of the pictures and quotes that they gathered during their interviews.
- Students could publish their oral histories on a Web site. They could include pictures of the subject and the community.
- Students could publish these oral histories in a book format and invite the members of the community to hear the stories or observe the presentations.

Lesson Plan: Albuquerque Neighborhoods

Mapping your neighborhood

By Connie Warren

Subject: Geography

Description: Students will examine different types of maps and use maps, atlases, and Web resources to produce a map of their own community.

Introduction

A map is a picture of a place. There can be different maps of the same place. All of the information about a place cannot be shown on one piece of paper. For a map to communicate effectively, it must show a limited number of things.

Different types of maps are made to communicate specific information. Some maps show terrain, and other maps show property boundary lines. There are a variety of maps.

The first task in geography is to locate places. Maps are the tools that students use to accomplish this task. Most of us make sense of our surroundings by looking at the physical features of an area. We may see rivers, canyons, forests, mountain peaks, schools or other landmarks. We also think of our surroundings in terms of other places. We know where we live in relation to relatives, friends, schools, etc.

Place is another fundamental geographic concept. All the places on Earth have distinguishing characteristics that give them meaning and character and help differentiate them from other places.

Most maps also show distances between things.

As students learn about Albuquerque, a city near a river, mountains, and two major interstates, they will understand that physical characteristics make a place unique. Geography involves learning not only about the location of places, but also about the interaction of physical, climatic, economic, and historical factors. Spatial analysis is the foundation of geography, and maps are the primary tools in performing that analysis.

The legend is the key to unlocking the secrets of a map.

Objectives

Students will:

- Be able to increase his/her awareness of the make-up of the immediate community.
- Develop a context for reading maps by examining their own neighborhood.
- Gain practice reading maps.
- Gain practice creating maps.
- Use atlases, maps, and Web resources to create and examine maps of their vicinity.

National Standard: How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective.

New Mexico Standard:

5-8 Benchmark 2-B: Explain the physical and human characteristics of places and use this knowledge to define regions, their relationships with other regions, and their patterns of change.

SS 7.2.3: Select and explore a region by its distinguishing characteristics.

SS 7.2.8: Interpret and analyze geographic information obtained from a variety of sources (e.g., maps, directly witnessed and surveillance photographic and digital data, symbolic representations [e.g., graphs, charts, diagrams, tables], personal documents, and interviews).

Vocabulary
Geography
Topographical
Terrain
Regional land features
Spatial
Globe
Atlas
Recreation Maps
Latitude
Longitude
Map Legend

Materials and Resources:

- Social Studies texts or a variety of texts that show different types of maps, such as road maps, shaded relief maps, topographic maps, relief maps
- Computers with Internet access and printers
- Current United States roadmaps, city maps and atlases
- Paper (Grid, construction, cardstock)
- Colored pencils, markers and crayons

Activities

Have students work in groups for 5 minutes to look through their textbooks or other books and list the kinds of maps they find. Also, have them write down one or two things that they can learn from each of the maps.

Ask the students what they normally do when they or their parents want to go from one place to another but don't know how to get there. Show students several different types of maps (topo, city and atlas maps), and then discuss with students why there are so many different kinds of maps. The conclusion they should reach is that you can't display everything about a place on one piece of paper. For a map to communicate effectively, it must show a limited number of things.

Have the students look at a legend on some of these maps. By using the legend on each map we can understand the map's detailed information.

The Web sites listed below will allow students to enter a street address and view a map of their neighborhood. Direct students to go to the first Web site listed below (maps.yahoo.com.). Have them look up the Albuquerque city map. Talk about the major geographical features of Albuquerque, such as the Rio Grande River, Sandia and Manzano mountains, I-40 and I-25, airport, golf courses, etc. Then have them look up their neighborhood. They can find a neighborhood map by entering their address in the boxes provided.

After students have generated a map of their neighborhood, they need to print a hard copy of their map. If two students live near each other they can share a map. Next, direct students to go to the terraserver site to see an aerial view of Albuquerque, their neighborhood and hopefully their house or apartment building.

Using the Web-generated map, city maps and their own knowledge of their neighborhood as their references, students will create a map of their vicinity. Before they

get started, have students think about and discuss places that they go to regularly in Albuquerque, such as school, the mall, relatives' houses, friends' houses, favorite stores and nearby restaurants. Students are to include these things on their maps and show the roads or trails that they use to get there. Their map doesn't have to be exactly like it is in real life. Make sure that they label all of the features on their maps so other people can tell what they are. They can use markers and colored pencils to make their maps easier to read and colorful. Maps are a work of art!

Their maps must include a legend and a compass rose and the map must be oriented so that north is at the top of the map.

Internet Resources:

http://maps.yahoo.com/yahoo/
http://www.proximus.com/geocities/
http://terraserver.microsoft.com/ (This site gives an *aerial* view of communities)
http://www.mapquest.com/
http://maps.google.com/

Assessment Rubric:

Group Work	Beginner	Intermediate	Advanced	Expert
Works well in group				
List of types of maps with two things they're used for.				
Web generated map				
1. Places that they go to regularly are shown on the map School Friends' houses Relatives' houses Fast-food restaurant Mall Stores				
2. Routes are shown Trails Roads				
3. Map communicates info effectively. Map is easy to read. Map is appealing to look at. Map has all of the important info. Map is drawn to scale. Map is in proportion.				
4. Legend and compass rose Legend includes pertinent info. Legend is drawn to scale.				

Compass rose is included.
Top of map is oriented
to the north

Extension Activities:

- Check out the maps on The Harvard Map Collection and the Panoramic Maps Collection. Check out the Community Maps Project Web site.
- Read "My Map Book" by Sara Fanelli.
- Invite a surveyor to demonstrate today's tools to the class.
- Go to **http://www.nationalgeographic.com/xpeditions/**
- for other map related activities.

Tapestry of Cultures

Albuquerqueans sometimes refer to the city as "tri-cultural," meaning Native American, Hispanic and Anglo. In fact, Albuquerque is a city of many cultures, and some have been here a long time.

At its founding in 1706 Albuquerque was a rather homogeneous society.

In the 1800s immigration to the United States increased because of economic strain and political instability in Europe, the result of overpopulation, the shift from an agricultural to an industrial economy, and famine. People came to America looking for opportunities and, in some cases, religious freedom.

When Mexican independence from Spain opened New Mexico to trade with the outside in 1821, the Santa Fe Trail began bringing outsiders here. The change in control, with the United States establishing a post in Albuquerque, brought even more change to the town's ethnic makeup. Newcomers tended to be young men and were both American and European. Many of the merchants married into local families, which gave them social connections.

In 2002 the Albuquerque Arts Alliance conducted a cultural survey that documented 27 cultures in the city, but there are more. Lamentably, not all groups want to call attention to themselves as a result of controversy following 9-11 or because of immigration issues.

How did Albuquerque gain such a variety of cultural groups? Since World War II, employment at Kirtland Air Force Base and Sandia National Laboratories has drawn individuals of diverse origins. UNM began to diversify its student body in the late 1950s and continues to do so. The health-care industry has recruited medical professionals internationally. And U.S. immigration policy on refugees has resulted in increased presence of people from Cuba, Vietnam, and some European countries.

The groups vary in their degree of organization and cohesiveness, but most are active in the community. Through their food, arts and music, they've enriched Albuquerque.

African-American

Census 2000: 13,854

Among the first families to come to New Mexico were black families. Of the 22 heads of households who originally settled Albuquerque, five were identified as Negro or Mulato. In addition African slaves or servants brought here from the Caribbean accompanied many early Spanish expeditions. Spain itself, occupied for centuries by Moorish Arabs or Berbers from North Africa, was quite diverse and so was Mexico, according to UNM Professor Emeritus Cortez Williams.

The first African in New Mexico was the slave Estéban, captured by the Spanish in Morocco. He accompanied shipwreck survivors led by Alvar Nuñez Cabeza de Vaca in his

epic 1530s journey across the Southwest to Mexico. Estéban returned to New Mexico in 1539 as a guide for the Franciscan Marcos de Niza.

Most of the early black people in Albuquerque during the 1600s were free blacks who came up or were brought here from Mexico or other Latin American countries, said Williams.

In 1828 Mexico, which was then independent of Spain, outlawed slavery.

Black trapper James Beckwourth was a member of the American occupation force that took New Mexico in 1846 during the Mexican-American War. After New Mexico became a territory of the United States, an unratified constitution drafted in 1850 banned slavery; the practice was officially abolished in New Mexico in 1861, a year before the U.S. Congress outlawed it.

The first significant wave of African-American immigration to Albuquerque occurred in the late 1870s with the coming of the railroad. Others moved here after serving as Buffalo Soldiers in the Indian Wars of the U.S. Army.

By 1882 the black community was large enough to start one of the city's first Protestant churches, the African Methodist Episcopal Church (now Grant Chapel). It was followed in 1898 by the Mount Olive Baptist Church.

In the late 1880s, when the Territorial Legislature was in the process of creating the University of New Mexico, Fred Simms, a black law clerk in the Rodey Law Firm, took notes for a legislative committee charged with selecting the site. When the committee vote tied between Albuquerque and Santa Fe, Simms was asked to cast the deciding vote, and he chose Albuquerque. That's why UNM is in Albuquerque.

By 1910 the black population reached 244. Many worked for the railroad; others started businesses when discrimination blocked them from getting other jobs. One of the first black-owned businesses was the Bryant Co. messenger service, which in 1910 used a fleet of two automobiles, four bicycles and one horse-drawn wagon.

In 1912 the Albuquerque Independent Society organized; it was renamed the NAACP a year later, one of the organization's earliest chapters. In 1914 women began the Home Circle Club, one of the oldest women's organizations still active in Albuquerque.

African Americans moved into the growing neighborhoods east of the railroad tracks, across from Barelas, along south Broadway. For years they weren't allowed to live in many of the city's other neighborhoods, but this began to change in the 1950s, even before the Civil Rights Movement.

Their numbers were small (547 in 1940 and 613 in 1950) but by 1960 their numbers grew dramatically as many black people came here with the military.

Institutions: 50 churches

Organizations: New Mexico African-American Artists' Guild, Home Circle Club, NAACP

Annual Events: Juneteenth is celebrated in a public venue with performances, food

Cultural Centers: Alice Hoppes African American Pavilion at the State Fairgrounds

Arab

Census 2000: 2,505

The first wave of immigrants began in the late 1800s and ended with World War II. This group was primarily Christian Lebanese. Most of them went into business, often

starting as peddlers until they could open dry goods stores. Two successful descendents of these immigrants were George Maloof and Dale Bellamah.

The late George J. Maloof came from a pioneering Lebanese family that owned a grocery and beer distributorship in Las Vegas, N.M. He came to Albuquerque to open a beer distributorship and amassed a fortune in hotels, banking, alcohol distribution and professional sports teams.

Homebuilder Dale Bellamah built thousands of houses in the Northeast Heights and on the West Side.

The partitioning of Palestine in 1947, followed by Israeli expansion, produced another wave of Arab immigrants. After the 1967 war there was another influx. Still others immigrated in recent years to pursue higher education or take jobs at UNM and Sandia National Laboratories.

Institutions: Islamic Center of Albuquerque

Education: Salaam Academy for Arabs

Organizations: Near East Alliance

Armenian

Estimated population: 150 in Albuquerque

Before World War II only a few Armenians lived in Albuquerque. Two immigrants were Bill and Jack Knadjian, who came here in the 1930s and began selling rugs. In 1954 they opened Knadjian's Oriental Rugs on Central near Presbyterian Hospital. The business celebrated its 50th anniversary in 2004.

After the war, many Armenians who had served at military bases in New Mexico moved to Albuquerque.

Every year Armenians commemorate Martyrs' Day on April 24, to commemorate the loss of an estimated 1.5 million Armenians in genocidal attacks by the Ottoman Turks. The local Armenian community planted a sycamore tree in front of the Albuquerque Museum. Its plaque states: "This tree presented to the Museum of Albuquerque, a living commemoration to the 1915 genocide of the Armenian nation." An Armenian priest is usually brought in from outside the community to conduct the Martyrs' Day ceremony and religious service.

Institutions: Armenian Church of Albuquerque**,** 111 Pennsylvania S.E.

Organizations: Armenian Cultural Association of New Mexico, 111 Pennsylvania St. SE, 87108-3206, 505-268-5522.

Annual Events: Martyrs' Day, April 24th

Cultural Centers: Booth at the New Mexico State Fair; exhibit at the Holocaust Museum downtown.

Celtic

Census 2000: 337

Spanish-speaking Irish and Scots were in New Mexico during the Spanish colonial period. Other Celtic immigrants came to the Southwest with the railroads, as cowboys, and in the military. By the late 1800s Albuquerque had a few dozen Irish people. Most people with Celtic roots arrived in the 20th century during World War II. In recent years, Intel employees from Ireland, where the company has a plant, have moved to Albuquerque.

One notable immigrant was John Milne, a native of Scotland, who came here to recover from tuberculosis. He became a math teacher in the high school and served as Superintendent of Schools for nearly half a century. Another was the Rev. James Menaul, a native of Ireland, who was a Presbyterian minister in Albuquerque for years. Menaul School is named for him.

Organizations: Ancient Order of Hibernians, the Irish-American Club, the Welsh Society

Annual Events: Highland Games in May (Albuquerque) and June (Rio Rancho)

Cultural Centers: UNM Irish language classes and Celtic mythology classes

Chinese

Census 2000: 2,414

In the late 1800s the railroad brought the first Chinese people to New Mexico. In 1885, 33 Chinese lived in Albuquerque. Their numbers grew slowly; by 1900 there were just 41 people, living mostly in the 200 block of West Silver. Most Chinese in Albuquerque owned or worked in laundries.

Discrimination against them was open and rampant throughout the Southwest. When the railroad was completed, and they were no longer needed, Congress passed the Chinese Exclusion Act of 1882, which prohibited immigration by unskilled Chinese laborers. The law wasn't repealed until 1943. Even then the Chinese population was static because of a strict quota system, but that changed with the Civil Rights Act of 1964 and the Immigration and Nationality Act of 1965. Under these new laws, thousands of Chinese people came to the United States to reunite with their families.

Most of the Chinese population in Albuquerque came here because of the 1965 law, as well as the opportunity to attend UNM. Many highly educated Chinese came here to teach or work at Sandia National Laboratories. From the late 1970s through the 1980s, most were from Taiwan, but now most new immigrants are from mainland China. In addition, non-Chinese Americans have been adopting Chinese children, and there are now more than 200 adoptees here.

For more than 50 years, the most visible reminder of Chinese culture was the New Chinatown café, but it closed in 2003. Kim Jew, son of the restaurants founders, is one of Albuquerque's best known photographers.

Institutions: Chinese Baptist Church, Albuquerque Chinese Church, Soka Gakkai Buddhist Temple

Education: Chinese language classes at UNM and APS

Organizations: Chinese American Citizenship Alliance, Chinese Student Friendship Association

Annual Events: Chinese New Year, Moon Festival (fall)

Cultural Centers: Chinese Cultural Center

Artists: Chinese Chorus

Cuban

Cubans entered New Mexico after Fidel Castro came to power in 1959. Many came to Albuquerque because of UNM. Another wave of Cubans came to the city in the 1980s. In 1995 the Santa Fe Archdiocese of the Catholic Church relocated about 3,500 refugees in Albuquerque through their Catholic Charities Immigration Project.

Albuquerque is the home of Cuban novelist Teresa Dovalpage, who wrote "A Girl Like Che Guevara," and dancer Sonaidy Abad.

French

Census 2000: 11,529

The first Frenchmen in New Mexico were Jacques Grolet and Jean L'Archiveque. Spaniards rescued them from Indian slavery in the late 1600s after the LaSalle Expedition in Texas was defeated by Indians. Grolet's name became Gurule, and L'Archiveque became Archibeque.

The brothers Paul and Pierre Mallat journeyed to New Mexico to trade in 1739. Spanish soldiers sent them back to New Orleans. Spain didn't permit its colonies to trade with outside nations, and it sent four other parties of Frenchmen to jail in Chihuahua. When Mexico gained independence from Spain in 1821, and foreigners were welcomed, French trappers began living in Santa Fe.

The Frenchman who would have the greatest impact on Albuquerque was Archbishop Jean Baptiste Lamy, who in 1867 was charged with transforming the Spanish Catholic Church into an American Catholic Church. The Jesuit priests he sent to San Felipe de Neri Church removed Spanish art and added new architectural features.

By 1900, there were 43 French people living in Albuquerque. The city gained more when GIs moved to the city with French brides after World War II.

In 1948 France sent 49 boxcars to all the states, called the Merci Train. It was filled with gifts from French citizens to reciprocate more than 700 American boxcars of relief goods sent to France by individual Americans. Over time Albuquerque's boxcar fell into disrepair. After it was rediscovered, The Alliance Française provided money and labor to restore the boxcar, which now serves as a small museum of French culture at the New Mexico State Fairgrounds.

In recent years, French people have come here because of climate, education, jobs and business opportunities.

Albuquerque has two French wineries: Gruet and Sandia Shadows. In1983 Gilbert Gruet and Farid Himeur started Gruet Wineries, and Philippe Littot started Sandia Shadows. Both grow their grapes near Engle, N.M., near Truth or Consequences.

Organizations: Le Group Française d'Albuquerque (www.zes.aps.edu/wilson/francais.html)

Annual Events: Beaujolais Nouveau Festival in November; Mardi Gras at Pappadeaux's Restaurant; Bastille Day at the state fairgrounds.

Cultural Centers: The Alliance Française (www.afabq.com), 2917 Carlisle Blvd. NE, Suite 211, 87110; 872-9288.

Filipino

Census 2000: 1,530

After the Philippine War of Independence in the late 1800s, Filipinos began to immigrate, and some eventually reached New Mexico, attracted by agricultural jobs and a Spanish-speaking, Catholic population. These agricultural immigrants settled in Grants, Los Lunas, Moriarty, Estancia, and Jemez Springs. Many intermarried with local New Mexicans. By 1910 there were 27 known Filipinos in the state.

Most Filipinos arrived after World War II. A large number of New Mexican soldiers were stationed in the Philippines, and many brought Filipino brides home with them. In addition, Philippine Scouts who served with Americans also immigrated. Later the Public Health Service drafted Filipino medical personnel to serve the Indian Health Service. And Filipino nuns and priests were recruited by the Gallup and Albuquerque Archdiocese and the Canossian Sisters.

Since 1965, when immigration laws established a preferential treatment for professionals, the city has seen an influx of engineers, accountants, nurses, and physicians. Filipinos are one of the fastest growing minority groups in New Mexico.

Organizations: Filipino American Association of New Mexico**;** Filipino American National Historical Society; Philippine Cultural Group of Albuquerque

Annual Events: Santa Cruz de Mayo, in May at San Felipe de Neri Church in Old Town

German

Census 2000: 86,000

Bernardo Bruber, a trader who arrived in 1678, was the first German to come to New Mexico. El Aleman in southern New Mexico was named for him.

More Germans began arriving when the Santa Fe Trail opened in 1821. By 1885 Albuquerque had 188 German-born residents. They were the single largest immigrant group after Hispanics and Americans. Today most of this population is of German descent, rather than German born.

In 1881 they established St. Paul's Lutheran Church, which became known as the German Lutheran Church. They started the Club Germania in the early 1880s to promote German immigration to Albuquerque.

The most prominent immigrant – and someone who would have an enormous impact on Albuquerque – was Franz Huning, who arrived in America at age 21. Intent on reaching California's gold fields, he hired on as a bullwhacker on an ox train, which brought him to New Mexico in 1849. He got a job with an Albuquerque merchant and stayed. He found plenty of Germans for company. Most were serving in the U.S. Army's regimental band.

One of those soldier musicians was Melchior Werner, who had been on the wrong side in the German Revolution in 1848 and fled. When he mustered out of the army in Albuquerque, he opened a store and then a hotel and even served as postmaster.

Huning opened his store in 1857 , invested in real estate and operated a flour mill. He was not only successful but became a mover and shaker in his adopted town and was involved in everything of importance here, from making sure the railroad passed through Albuquerque to starting the first Territorial Fair. In 1883 he built Castle Huning, his mansion, at what is now Central and Laguna.

By 1900 German immigrants were well established in Albuquerque; by 1910 they constituted 20 percent of the city's population. During World War I, when Germany became an enemy, this group saw some prejudice and intimidation but not the violence of other parts of the country. German immigration here slowed considerably after World War I, but World War II produced an increase, primarily by German scientists who had worked on the secret weapons programs at Los Alamos and White Sands, including Dr. Wernher von Braun and many of his fellow scientists, who helped launch the U.S. space program.

Germans who arrived after in this period tried to assimilate quickly because of negative feelings toward Germans and Nazis, which were exacerbated by the media.

Organizations: Edelweiss German-American Club, Enzian Schulplattler, and Alpenland Schulplattler

Annual Events: Oktoberfest, in Rio Rancho and Albuquerque; Fasching, in November at the Edelweiss Club

Cultural Centers: Edelweiss German-American Club

Greek

Census 2000: 2,240

Greeks have been in New Mexico nearly as long as Hispanics. Greeks accompanied Don Juan de Oñate's party of colonists in New Mexico in 1598. One of those people was Juan Griego, from Candia, Greece. (The Spanish word for "Greek" is "Griego.") His descendents settled in the North Valley, and the community Los Griegos was named for them, as was Griegos Road.

The first known Greek immigrants in Albuquerque arrived around 1915, following the Balkan Wars between Greece and Turkey. Thousands of Greek-American immigrants had gone to Greece to fight against the Turks and then returned to America with Greek brides.

Many started businesses. A favorite Greek-owned place of the 1920s was the Liberty Café on Central and Second.

In that time, the American Helenic Educational Progressive Association ran a sanatorium for tuberculosis patients near the present Presbyterian Hospital. Many Greeks came as patients. This sanatorium closed in the 1940s.

In 1944 construction began on St. George's Greek Orthodox Church. With the church as the center of this community, the Greek population steadily increased.

Institutions: St. George's Greek Orthodox Church

Annual Events: Grecian Festival, in October

Hawaiian

Census 2000: 431

More Native Hawaiians now live on the mainland than live in Hawaii. Most Hawaiians in Albuquerque came here for one of three reasons – the military, education or employment, although some came to learn about tribal sovereignty and land rights from American Indian communities here.

Albuquerque has a hula troupe, which makes all of its own costumes and performs at both city events and Native American events. The Hawaiian community of Albuquerque holds an annual *luau*, usually at a local middle school.

Hispanic

Census 2000: 362,752 (Hispanic or Latino)

The history of Albuquerque and New Mexico is largely the history of Hispanics. The first Spaniards entered the state in 1539 with Coronado's expedition. In 1598 they came as colonists. New Mexico remained a Spanish outpost until 1821, when Mexico gained its independence. Albuquerque then became a Mexican outpost, but the major difference was that Mexico permitted trade with the outside. In that year the Santa Fe Trail

opened, and Americans, French and English entered as traders. Those newcomers tended to be young men, and many married into local Hispanic families.

Albuquerque retained its Spanish character until the arrival of the railroad in 1880, when Americans began to pour into the city. Before long language, customs, religion and architecture all showed the effects. The most obvious difference was Old Town, which remained a Spanish village of adobe houses, while New Town exploded two miles away in a profusion of brick and frame houses in styles transplanted from the Midwest and East.

The town's most prominent Hispanic families had been sending their children to the United States to be educated, and so they not only knew English but were familiar with American business practices and customs. In the historic records of significant events in the city are many Hispanic names.

Interestingly, as the city grew in subdivisions to the east, the early affluent neighborhoods excluded only African Americans and Chinese, indicating continued influence and acceptance for the Hispanic population. In the Albuquerque Arts Alliance survey, some people said they didn't experience discrimination until they left New Mexico.

And yet there has been discrimination. One indication is an entire generation of Hispanic people who grew up without learning Spanish because the schools required that English only be spoken. In addition, some parents didn't want their children to speak English with an accent because they feared it would be a barrier to employment.

The Hispanic community has also been a powerful influence in fostering tolerance of other groups. Here are two notable examples: In 1928 the Ku Klux Klan staged a cross burning. Sheriff Tony Ortiz and two deputies appeared and ordered the members to unmask. The Catholic Church ordered its members to avoid the Klan. And during World War II, when New Mexico towns were allowed to vote on whether to send their Japanese citizens to internment camps, Albuquerque never voted because Hispanic people opposed the move.

Today Albuquerque preserves its Hispanic heritage in many ways, from its ambience to its language to its arts, music and food. It's significant that in recent years the National Hispanic Cultural Center was built here.

Hungarian

Census 2000: 2,481

Hungarian migration to New Mexico has been a gradual process, punctuated by small waves brought on by major events. One of the first Hungarian immigrants was a master boot maker, who arrived in the early 1900s in Tucumcari and settled in Gallup. Others were drawn to the state for mining and farming.

During World War II, several scientists who worked on the Manhattan Project were Hungarian, including Edward Teller. Hungarian scientists have also worked at both Los Alamos and at Sandia national laboratories. After the 1956 revolution in Hungary, another wave of Hungarian immigrants came to the state. Today there are Hungarians living all over the state and working in various professions.

The UNM Law School has an exchange program with a Hungarian university, and Hungarians from the local community are part of the selection process.

Organizations: Hungarian-American Club

Annual Events: Hungarian Freedom Day, in March; Saint Stephen's Day, in August ; Hungarian Revolution anniversary, in October; Saint Nicholas Day, in December; all at the Edelweiss Club.

Indian

Census 2000: 1,421

People from India were once referred to as Hindus, to distinguish them from Native American Indians. Today the designation is East Indian.

Albuquerque didn't have a sizable East Indian population until the Immigration and Nationality Act of 1952 allowed entire families to move to the United States. Most of Albuquerque's East Indian population arrived in the 1970s and 1980s. Many were recruited to fill openings here as engineers and scientists the national laboratories or UNM, and many were physicians.

Most of the East Indian immigrants in Albuquerque were English speakers before they left India and earned advanced degrees after they arrived.

Local East Indian people practice all four of the major religions: Hindu, Buddhist, Muslim, and Christian. There are churches, mosques, and temples in Albuquerque but no one place of worship for Hindus.

Two Indian grocery stores cater to this population.

Organizations: Indian Association of New Mexico; Hindu Temple Society; Promotion of Arts, Dances and Musical Instruments of India; India Student Association; Friends of India Association; New Mexico Association of Physicians from India

Annual Events: Navatri (Festival of Nine Days) in October; Diwali (Festival of Lights) in November

Italian

Census 2000: 25,298

Italian immigrants had a big impact on Albuquerque, beginning with the five Italian Jesuit priests sent here by Archbishop Jean Baptiste Lamy in 1868. His orders were to transform the Spanish Catholic Church into the American Catholic Church. The Jesuits added two wooden bell towers, done in Italian baroque style, and removed New Mexican santos from the church and gave them away to parishioners. Replacement art was paintings in wooden frames. With the help of local carpenters, they made hand-carved pews. In 1872 they opened the Holy Family Select School for Boys and in 1873 began publishing the Imprenta del Rio Grande.

The Jesuits formed a bridge between the local Hispanic population and the newcomers – Americans and European immigrants. Later, Italian immigrants maintained this role in New Mexico because they could speak Spanish and English and were accepted in both cultures.

Another Italian to have a major impact on Albuquerque was Sister Blandina Segale, who oversaw the construction of a convent in Old Town and several schools and taught for many years. She was also a staunch and tireless advocate for the poor and sick of any faith.

Many of New Mexico's Italian immigrants arrived in 1880 as railroad workers. Between 1880 and 1900 Italians were concentrated in Bernalillo County. Typically, they saved their money and started businesses. When coal mines opened in 1910, another wave

of Italians came to Raton and Gallup to be miners. Some Italian immigrants farmed in Corrales and near Isleta or raised sheep in Central New Mexico.

By 1910 there were 1,959 Italians in New Mexico, most of them from Northern Italy, who had come here for economic opportunity.

Italian immigrants built many of the city's premier buildings. In 1886 two skilled stone cutters, Gaetano Palladino and Michael Berardinelli, built the first Bernalillo County Courthouse. They also built the ornate, brownstone Nicholas T. Armijo Building.

Italians also financed the construction of some notable buildings. Luigi Puccini, cousin of the famed composer, is responsible for the Puccini building, now home to both the El Rey Theater and Puccini's Golden West Saloon. Oreste Bachechi, a grocer and liquor wholesaler, built both the Savoy Hotel in 1905 and in 1927 the KiMo Theater. His wife Maria Bachechi ran both a dry goods store and the Elms Hotel while raising the couple's six children.

The best known son of Italian immigrants is Sen. Pete Domenici, the state's longest serving U.S. senator. His family left northern Italy and came to New Mexico in the early 1900s.

Albuquerque's original Italian community settled primarily between 1st and 8th streets, around Marquette.

Educational Institutions: UNM Italian Studies degree program

Organizations: Club Culturale Italiano; Sons of Italy; Italian-American Club of Rio Rancho

Annual Events: St. Joseph Feast in March; Carnivale before Lent; Columbus Day in October

Japanese

Census 2000: 1,593

It's not known exactly when the first Japanese immigrants arrived in New Mexico and Albuquerque, but it's likely they arrived as other immigrant groups did to work on the railroad. Because many of these people were from an agricultural environment in southern Japan, they settled in the Rio Grande valley between Belen and Bernalillo and established farms. The Yonemotos were one such family, arriving in Albuquerque during the 1920s.

Other Japanese immigrants operated restaurants and other small businesses and were truck farmers. They maintained their language and culture by sending their children to Japan to be educated.

When the United States and Japan went to war in 1941, many Japanese Americans were rounded up and confined in internment camps. New Mexico had two of these camps, in Fort Stanton and Santa Fe, but most of the Japanese held there were not from New Mexico and left the state shortly after their release in 1945.

New Mexicans took a different approach to internment. It was considered a local issue, and communities could vote. Even so, few communities even bothered to vote. The only city in New Mexico that voted to intern its citizens of Japanese descent was Clovis. In Albuquerque Mayor Clyde Tingley wanted to intern the city's Japanese immigrants, but Hispanic groups opposed the policy, and it never came up for a vote.

After the war many Japanese women came to Albuquerque as war brides of servicemen stationed at Kirtland.

One of the most prominent Japanese immigrants is Satoye Ruth Hashimoto, who was named to the New Mexico Women's Hall of Fame in 1989. For years, she represented the Japanese American Citizen's League, taught American citizenship classes in Japanese. She worked for the Civil Liberties Restoration Act of 1988 and was present for the White House signing.

Institutions: Kyokai Japanese Buddhist Community
Education: Japanese language classes at UNM
Organizations: New Mexico Japanese American Citizen League
Annual Events: Aki Matsuri, September at the Japanese Kitchen restaurant

Jewish

Jews have been in the state nearly as long as Hispanics, although the earliest Jewish settlers weren't advertising their religion. Crypto-Jews, Hidden Jews of Spanish descent, moved here from Mexico to avoid discovery during the Spanish Inquisition.

The Catholic Inquisition began in Rome in the early 13th century to find and punish Christian "heretics." It then spread through most of Central and Western Europe. By 1288 the Inquisition was executing Jews as well. Many Jews converted to Christianity to avoid persecution but even then were persecuted. In 1492 practicing Jews were forced out of Spain.

Many of the *conversos* outwardly practiced Christianity but maintained Jewish practices in secret. When Spain sought colonists for the New World, many *conversos* took the opportunity to escape. Beginning in 1580 the Inquisition began in Peru, Colombia, and Mexico. Again *conversos* left, and settled along the Rio Grande, from El Paso to what is now Southern Colorado.

(In recent years scholars began to write about practices of some New Mexico Hispanic families that linked them to Judaism, such as lighting candles on Friday nights, avoiding pork, observing the day of rest on Saturday, and focus on the Old Testament. Some families knew they were once Jewish, others didn't.)

In the 1800s, German repression of Jews combined with economic hard times resulted in another wave of Jewish immigration. Some of these people became peddlers and traders on the Santa Fe Trail. As they were able, they opened stores.

The first of this group was Jacob Solomon Spiegelberg, who arrived with General Stephen Watt Kearney in 1846 as a sutler, when the United States claimed New Mexico during the Mexican-American War. Spiegelberg's Albuquerque employee, Albert Grunsfeld, bought out his boss.

When the railroad arrived, just a handful of Jews lived in Albuquerque. In 1882 a chapter of B'nai Brith, a Jewish fraternal service organization, started in Albuquerque. Its members were largely young men, which also characterizes most Jewish immigrants in New Mexico at the time. As Albuquerque grew, so did its Jewish population.

In 1885 Henry Jaffa, a Jewish merchant and president of the city's Board of Trade, became the first mayor elected after incorporation. Mike Mandell in 1890 also served as mayor.

In 1897 Jews organized Congregation Albert, named for Grunsfeld. On September 14, 1900 the first synagogue, Temple Albert**,** was dedicated on the corner of Seventh and Gold downtown. (In 1951 a new temple opened on Lead Ave. It moved to its current location in 1984.)

During the 1860s Charles Ilfeld worked first in Taos and then established a firm in Las Vegas. His Charles Ilfeld Co. would become the largest mercantile house in the state. Ilfeld's brother-in-law, Max Nordhaus became general manager. In 1906 the firm expanded into Albuquerque and in 1911 Nordhaus moved here. Five years later the company started the Ilfeld Realty Co., which in 1951 became Alvarado Realty. Max's son Bob was the founder of Sandia Peak Ski Area.

In 1921 a second religious community organized as Congregation B'nai Israel.

Institutions: Temple Albert, Congregation B'Nai Israel, Congregation Nahalat Shalom,

Organizations: New Mexico Jewish Historical Society; Jewish Federation of Greater Albuquerque, 5520 Wyoming Blvd. NE, 821-3214, info@jewishnewmexico.org, http://www.jewishnewmexico.org/

Annual Events: *Chanukah* Festival in December; Yom Ha'atzmaut (Israeli Independence Day) celebration; Yom HaShoah (Holocaust Remembrance Day); Klezmerquerque (music festival) in February

Cultural Centers: Jewish Community Center

Korean

Census 2000: 1,125

Most Koreans came here after the Korean War as brides of servicemen or as orphans adopted by Americans. The Immigration and Nationality Act of 1965, which abolished quotas based on national origin, started another wave of Korean immigration. By the 1980s Koreans had become the third largest immigrant group in the U.S. Numbers have declined since then as South Korea's economy has improved.

One of the strongest cultural organizations for the local Korean community is the Protestant church. There are three Korean Protestant churches in the area – Presbyterian, Methodist, and Baptist. This has to do with social resistance to Japan at home, and the church continued to be a focus of Korean communal activity in the United States.

Institutions: Korean Presbyterian Church, 2200 Chelwood NE, http://www.jesuskorea.org/kpc_church.html; Korean United Methodist Church, 601 Tyler NE; Korean American Baptist Church, 3315 Tower SW.

Organizations: Korean American Society

Annual Events: Korean Festival, at the Korean Community Center; Sollal (Korean New Year) in early winter;

Cultural Centers: Korean Community Center and Language School, 9607 Menaul NE

Latin American

Census 2000: 871 South American, 826 Central American

The largest populations in Albuquerque are Colombian, Peruvian, Chilean, Panamanian, El Salvadorian, and Guatemalan.

Most Central and South Americans in Albuquerque have arrived over the last 30 years. Some came here with American spouses, others for education and job opportunities. The fact that Spanish is spoken here was also a factor.

Education: Quichua and Quechua classes at UNM

Organizations: UNM's Brazil Club

Annual Events: Carnival, at Tucanos Brazilian Grill; Bolivian Independence Day, August 6; Chilean Independence Day, Sept. 19

Mexican

Census 2000: 68,537 (est.)

This ethnic population is one of the largest and also the most fluid. There is no central organization, but the Mexican culture is in no danger of disappearing in New Mexico.

Most of the Mexicans who have recently arrived in Albuquerque came from northern Mexico, usually the state of Chihuahua. Many Mexicans here aren't immigrants; they're here to earn some money and then return home.

Jobs are the magnet, but Mexicans come to Albuquerque in particular because of its proximity to the border, its vibrant construction market, its established underground Mexican community and social infrastructure, and the city's support of Mexican culture. In fact, much of what we consider New Mexican culture is actually Mexican. For example, New Mexicans enthusiastically celebrate the Mexican holiday of Cinco de Mayo, as well as the Feast Day of the Virgin of Guadalupe.

Institutions: Mexican Consulate, 1610 4th St. NW, 247-2139

Annual Events: Feast Day of the Virgin of Guadalupe, in December in the South Broadway Neighborhood and in San José; Cinco de Mayo, on May 5; Mariachi Spectacular, in July.

Native American

Census 2000: 57,555

People have lived in the Middle Rio Grande Valley for thousands of years, but the Pueblo culture familiar to us now dates from about 900 A.D. At one time there were about 40 pueblos in the Albuquerque area. Athabaskan people (Apaches and Navajos) have been here since about 1400, although archeologists now say their arrival may have been earlier.

New Mexico today has 19 Pueblo tribes, each operating autonomously, along with two Apache tribes, and the Navajo Nation. Albuquerque's closest neighbors are Sandia and Isleta pueblos and the To'hajiilee Chapter of the Navajo Nation.

Living in Albuquerque are members of 40 tribes. The largest group represented is the Navajo tribe with 22,072 (14,183 full-blooded), followed by Pueblo tribes at 12,622 (7,927 full-blooded). Apaches numbered 1,896 (1,086 full-blooded). Cherokee and Sioux tribes both have local populations of more than 1,000.

The Albuquerque Indian Center reports that there are 35,000 American Indians from more than 150 different tribes living in the city of Albuquerque.

Indian people here initially resisted the Spaniards when they arrived here in 1540, and isolated rebellions continued until 1680 when the Pueblos, along with the Apache and Navajo allies, joined to drive the Spanish from New Mexico. After the reconquest in 1692, Spaniards moderated the practices that had offended native people. Eventually Pueblos and Spaniards joined to resist raids by Navajos, Apaches and, later, Comanches.

After the railroad arrived, and the earliest tourism began in earnest, native artisans found a market for their wares. Traders and merchants also began buying Indian arts and crafts for resale, and a new industry was born. The Alvarado Hotel once employed many

Native Americans, and the complex included an Indian Building that featured artists and weavers at work.

In 1881 the Presbyterians contracted with the government to open the U.S. Indian Training School, which the government took over in 1886. A century later the growing availability of public schools on or near reservations reduced the need for government boarding schools. Albuquerque Indian School was transferred to Santa Fe. The buildings were razed in 1987. Many Native Americans attended this school and remained in Albuquerque after graduation.

In 1971 the Southwest Indian Polytechnic Institute was established to serve as a vocational post-secondary school for Indian students throughout the region. It has about 400 students.

Many Native Americans come to Albuquerque for jobs but intend to return to the reservation. Artisans live here or visit to maintain relationships with traders and galleries. Still others, from out of state, live here because they're treated better in Albuquerque than they are at home.

Education: Southwest Indian Polytechnic Institute; Native American Studies Program at UNM; Digital Pueblo Project at UNM

Organizations: Laguna Colony of Albuquerque; Kiva Club at UNM

Annual Events: Gathering of Nations Pow-Wow, in April at The Pit;

Cultural Centers: Indian Pueblo Cultural Center; Albuquerque Indian Center

Persian (Iranian)

Census 2000: 617

Few Persian people lived here until the revolution of 1979, when political and religious oppression caused many Iranians to leave their country. Also, the Ayatollah Khomeini seized private wealth for the state, prompting the departure of the nation's professionals. And educated women who wanted to work found it necessary to leave.

As a result, many Iranian immigrants were educated and spoke English when they arrived and found jobs teaching in universities. Others started businesses.

In recent years, after 9-11, some Iranian immigrants have experienced prejudice, harassment, vandalism and occasional violence. This has led some to call themselves "Persian," rather than "Iranian." Others prefer the term "Persian" to separate themselves from the extremism of the current government in Iran.

Persians have come to Albuquerque for jobs and education. They have also said the terrain looks like their native country.

Organizations: Iranian Cultural Society of New Mexico (www.icsnm.com)

Annual Events: Eide-Fetr (feast following Ramadan), at UNM; No Ruz (Persian New Year), in March at UNM

Polish

Most Polish people came here in the 1980s, after political turmoil in Poland and included a large number of skilled workers and college professors. They came to Albuquerque for jobs at UNM and the laboratories. Still others have moved from Polish communities in the Northeast for jobs, education or retirement. Many of the nuns who run St. Felix Pantry, a charitable food distribution center in Rio Rancho, are Polish-Americans.

Stanislaw Ulam was a mathematician and scientist who helped in the development of the hydrogen bomb in Los Alamos and was one of the first to recognize the potential of computers in scientific research.

Annual Events: Smigus-Dyngus, after Easter at the German-American Club

Russian

Census 2000: 4,000+

Russians came to Albuquerque in four waves: after the 1917 Bolshevik Revolution, after World War II, in the 1970s (Soviet Jews known as "refuseniks"), and after the Cold War ended. This most recent group is largely made up of scientists, engineers and professionals who came here to work in the national laboratories.

Institutions: All Saints of North America Church; Russian Orthodox Church Outside of Russia (Santa Fe)

Annual Events: Harvest Festival at All Saints of North America Church, http://www.allsaintsofnorthamerica.net/.

Scandinavian

Most Scandinavians in Albuquerque are second, third, and fourth generation descendants of earlier immigrants who settled in the Midwest and then left because of economic conditions. Others came here to recover from tuberculosis. More recent arrivals to Albuquerque have come as members of the military or as students at UNM and stayed. Still others liked the warm, dry climate.

A notable example of Scandinavian architecture in Albuquerque is The Whittlesey House, visible west of I-25 and south of Central. Now home of the Albuquerque Press Club, it was built by architect Charles Whittlesey, who trained in Norway. It is a wood framed, log house modeled on a Scandinavian hunting lodge. Whittlesey designed both the Alvarado Hotel in Albuquerque and El Tovar at the Grand Canyon.

Organizations: Scandinavian Club

Annual Events: Midsummerfest; Julfest

Spanish

Spaniards settled New Mexico in the late 1500s, but their descendents are usually regarded as New Mexicans, not Spaniards. More recent Spanish immigration is difficult to track through the Census because some New Mexicans identify themselves as Spanish.

Still, Spaniards have immigrated to New Mexico in small but steady numbers through most of the 20th century, either as emissaries of the Spanish government or as spouses of military personnel who have been stationed in Spain.

The most prominent and common Spanish art form found in Albuquerque is flamenco dance and music. Most of the Albuquerque practitioners are not Spaniards, but rather New Mexican descendants of earlier Spanish immigrants who came to New Mexico before flamenco was popularized in Spain.

Institutions: The Instituto Cervantes, **www.cervantes.es** and **albuquerque.cervantes.es**

Organizations: Club de España, candelariamcrespo@hotmail.com.

Annual Events: Festival Flamenco Internacional de Albuquerque, in June at UNM

Cultural Centers: National Hispanic Cultural Center

Sub-Saharan African

Census 2000: 1,416.

The Sub-Saharan region includes 47 countries, each with its own cultures and languages. Many are represented in Albuquerque, but no single one has large numbers.

Most came here as students or to teach. Kenyans came here in numbers after World War II and a revolution in their country, when the United States airlifted Kenyans here to receive training to implement a democracy. Some returned home and others remained. Since then Kenyans have come in a steady stream, primarily to UNM.

Albuquerque also has small communities of people from Nigeria, Zimbabwe, Botswana, Senegal, and South Africa.

Institutions: African dance classes at UNM; Panjea Foundation for Cultural Education

Organizations: Africa's Friends Reaching the International Community for Africa (AFRICA) at UNM

Cultural Centers: Maple Street Community Dance Space

Vietnamese

Census 2000: 2,829

The first Vietnamese immigrants came to Albuquerque in 1972, when an American serviceman brought his Vietnamese wife and stepchildren to Kirtland Air Force Base. Vietnamese immigration began in earnest in 1975 when South Vietnam fell. In the next two years the U.S. State Department had a resettlement program that brought about 3,000 Vietnamese to New Mexico. Since then, others have joined family and friends who were already in Albuquerque.

In 1989 the State Department allowed open immigration from Vietnam, and another wave of immigration began, typically of older, educated men who served in the Vietnamese army and were interred as political prisoners following the war.

Organizations: Asian American Association; Vietnamese Mutual Assistance Association

Annual Events: Tet Nguyen Dan (Vietnamese New Year) in spring; Memorial Day, April 30 to remember the journey to America and the people who perished on the way.

Resources:

Albuquerque Arts Alliance Cultural Survey:
http://www.abqarts.org/cultural/survey/index.htm

Garcia, Nasario. Albuquerque Feliz Cumpleaños! Three Centures to Remember.

Simmons, Marc. Albuquerque: A Narrative History.

Lesson Plan: Albuquerque's Tapestry of Culture

By Steve Schripsema

Objective: Students will describe how cultural groups affected the development of Albuquerque and begin to appreciate the different perspectives on the history of our city. Students will use an oral history survey to explore their own culture and create an archive of historical interest to share with others. Students will experience the rich, diverse culture that has grown over the course of 300 years as a city.

New Mexico Standards: Social Studies, I-A, I-D, II-E and III-B

Background:

Share the background report, "Tapestry of Cultures," with your students, or use specific examples that will give your students the necessary background for understanding the purpose of this activity. A crossword puzzle is included to be used with highlighted vocabulary.

Culture encompasses many things including, language, religion, art, music, literature, way of life, clothing, values, history, and perspective. Albuquerque is a 300-year-old city with dozens of distinct cultures living side by side and blending together to create a rich and diverse experience for the people who live here.

Albuquerque's diversity has been the result of people immigrating to the Rio Grande's fertile valley for thousands of years. More recently, Pueblo people have left their mark here in the petroglyphs along the west side lava escarpment for the last 1,000 years. They and their descendents built settlements and named many of the landmarks in the Albuquerque area and today continue to contribute to the cultural climate of the city.

In the 16th and 17th centuries, Spanish conquistadors, missionaries, and settlers (including many of African, Arab and Jewish descent) began to arrive in the area, adding new innovations, animals, religious beliefs, and a different perspective on the land and future of Nuevo Mexico. Although this was also a period of conquest, trade, art, religion, and language thrived along El Camino Real from Mexico City to Santa Fe.

Albuquerque was established in 1706 and settled by farmers from Bernalillo, accompanied by soldiers. Until 1821, Albuquerque continued under Spanish rule, which allowed no contact with outside cultures. However, their isolation produced a unique cultural blend with Spanish and native expressions that we in the *Rio del Norte* claim as our heritage.

The Mexican Period began with independence in 1821. Because Mexico permitted trade with the United States, France and England, the first outsiders, traders, began arriving over the newly opened Santa Fe Trail. The Mexican Period was brief, but important in terms of understanding the changing way of life. New Mexico was now more open and gradually word spread of the value of this land and people.

In 1846 the United States and Mexico went to war over border issues, and the United States claimed New Mexico. In 1848, the Treaty of Guadalupe Hidalgo ended the war and New Mexico became a U.S. territory. The territorial period was marked by railroad boomtowns, land speculation, cattle drives, Protestant missions and the development of Indian reservations.

It was a time of growing Anglo cultural influences. Early in the period, Albuquerque was barely considered a significant town as it was spread along the river and not to be compared with Santa Fe, the capital. But things were about to change.

With the arrival of the railroad in 1880, a boom in population and construction occurred as the city moved eastward from the river. The U.S. population was expanding as immigrants from across the globe arrived on both coasts, and agricultural Albuquerque gave way to urban Albuquerque as more and more *americanos* began arriving. These new immigrants included people of western European, African and Chinese origins.

Little agricultural Albuquerque was becoming "Americanized" as public education began to require English language education, and it wasn't long until newcomers began to change Albuquerque from what others saw as a rural, uneducated community into a more modern American urban center.

Statehood finally came to New Mexico in 1912, and several population waves followed. First the "lungers" arrived looking for a warm dry climate to treat their tuberculosis. Starting in the 1920s, the automobile and Route 66 continued the migration of people begun by the Santa Fe Trail and railroads. The Great Depression brought many people west, some staying in the Albuquerque community.

During World War II scientists from Germany and Hungary came to work at Los Alamos. Scientists at both national laboratories have more recently been joined by others from Russia, India, the Middle East and Asia.

Historically, Kirtland Air Force base has brought thousands of people from all parts of the country, many with spouses born in other countries, which also helped to grow the cultural diversity of the city.

And wars of the twentieth century have also been responsible for large numbers of refugees coming to Albuquerque. In the late 1800s, a rebellion brought Filipinos here. In the early 1900s, Armenians and Greeks arrived and subsequent wars brought Germans, Hungarians, Koreans, and Vietnamese, creating vibrant cultural communities here in town. More recently, the city has seen an influx of refugees from Cuba and Eastern Europe. And Mexicans come to find work and hope to return home.

Maintaining a cultural identity is difficult, but these groups manage to maintain their culture while still being a part of the greater community. Architecture, businesses, clubs, restaurants, and cultural celebrations are just the visible signs of how these distinct culture groups have made our city a wonderful place to live.

Discuss the challenges in keeping a cultural identity. Try thinking about the many groups and see if you can think of places you've been, food you have eaten, or celebrations you have attended that demonstrate our rich tapestry of culture.

Activity: Cultural Archive

Materials:

- One photocopy of oral history questions per student
- One shoe box or other appropriate container per student
- Family tree forms, available online
- A blank sheet of paper for making the coat of arms

Step 1: Oral History

A. Select a culture. This can be personal, family, or a culture group assigned by teacher.
B. Research that culture. See the Albuquerque Arts Alliance website: www.abqarts.org/culture/survey/index.htm.
C. Select an individual to interview about his or her culture.
D. Prepare an interview using the oral history worksheet.
Optional: Have students practice their interviews with each other, and be sure to explain the importance of respecting the individual who is being interviewed.

Step 2: Organize a personal, family or Albuquerque cultural archive

A. Students obtain a suitable container for the information and artifacts they gather. A shoebox, folder, portfolio, or poster board would adequately contain or display artifacts.
B. From information gained from research above, begin collecting items that represent the culture.

a. Photos or pictures
b. Souvenirs or memorabilia
c. Recipes
d. Family heirlooms
e. Music, literature, art
f. Family tree or genealogy
g. Oral history interview(s)
h. Coat of Arms

Optional: Family Tree (See Place Names Lesson, #12)
Optional: Coat of arms, family crest (icons and symbols)
Many family names already have a coat of arms or family crest. After researching their family or culture group, a student should be able to come up with symbols or icons that represent them. These could be used to design a shield that could decorate their archives. This activity can also stand alone.

Step 3: Archives Day

On a day selected by the teacher, students would bring in their archives and share with the class what they discovered from their research.

Assessment:

There are several points of assessment. Use the Crossword Puzzle to assess new vocabulary. Along with satisfactory completion of this activity, have students self-assess their projects looking for the strengths and areas of growth. Have them identify things they learned about themselves, the culture group, and the history of Albuquerque.

Resources:

Meyer, Carolyn. Rio Grande Stories.

Speakers from the New Mexico Humanities Council (www.nmeh.org) or the Tricentennial (Albuquerque 300.org).

Puddled Mud and Pueblo Revival
Architecture in Albuquerque

Over the past 300 years, the architecture of Albuquerque has evolved from one-story buildings of baked earth to soaring structures held fast by steel I-beams. In between came Spanish Colonial, Territorial, Pueblo Revival and a variety of architectural styles brought in when the railroads and highways linked Albuquerque with the rest of the world.

Pueblo Period

Early Pueblo people built small villages, mostly made from stone, in the Sandia foothills and Tijeras Canyon area during A.D. 1100-1200. Following a 13th-century drought in the Four Corners and Mogollon Mountains, the valley's native population increased dramatically. Numerous pueblo villages, many made of adobe and standing several stories high, were built on both sides of the Río Grande. Many villages had hundreds of rooms; the largest ones had over a thousand rooms and probably several thousand inhabitants. Villages included rectangular living and storage areas, ceremonial *kivas* which were rectangular and incorporated in blocks of living rooms, or separate, semi-subterranean, circular rooms; and plaza areas.

Rooms were constructed of either masonry or, closer to Albuquerque, "puddled" adobe built up in thin layers to form walls. Timber was cut from the cottonwood *bosque* or hauled from the Sandia Mountains for *vigas* and *latillas* used to support flat roofs. Women performed much of the labor to build and maintain the impressive structures, which towered more than three stories with terraces and rooftop entryways that deterred intruders.

Spanish Colonial and Mexican Periods

Homes of adobe were the norm well into the 1800s. The primary building style in New Mexico was a clean, rustic cubical form with adobe walls and flat roofs—a style mandated by local materials. Albuquerque's isolation created an evolution of Indian Pueblo building techniques with a Spanish influence.

Homes were small, one level and made of adobe. Over time, families enlarged their houses by adding rooms, and as additions were made, the house might take an L-shape or U-shape. Each room had its own entrance from the outside and inner doors were rare. Small windows were high on the wall and covered with hides or skins when the weather was bad. Floors were packed earth, often soaked with animal blood to control dust. Later on brick was also used for floors.

In the larger houses, rooms were built around a courtyard, or *placita*. At the back of the house was a corral. The whole complex was enclosed within high adobe walls with no windows or doors and only two sets of gates. The front gate opened to a *zaguán*, a covered passage wide enough to allow a wagon into the placita. The rear gate opened to the corral.

Sometimes several families built a line of rooms and connected them around a plaza to form a fortified community.

Adobes were an excellent material to use for home building because clay, sand, straw and sunlight were readily available. Using a wooden frame or mold that was open at the top and bottom, settlers produced adobes 18 inches by 10 inches by 5 inches. Then they removed the frames and left adobes on the ground to dry. They used stones for the foundation. Thick mud was used to bind the adobes to each other and to the foundation.

With the walls up, the roof was next. *Vigas* or beams were placed about 24 inches apart across the walls. They started by using the larger logs at one end and working down to the smaller ones. This was necessary to make sure that the water would flow off the flat roof. The ceiling was built by placing straight branches, called *latías*, across the beams. These were then overlaid with reeds and followed by a cap of several inches of dirt.

U.S. Territorial Period

With annexation and the arrival of Army personnel and other Americans, including settlers, miners and tradesmen, New Mexico came out of its isolation, and new influences could be seen. In addition, Indian raids began to abate and then stop in the 1880s.

When buildings no longer had to be small forts, home building changed. Gone was the plaza, replaced by the front porch. And two-story houses began to appear. Houses were no longer a string of rooms but several rooms deep and wide. Brick and wood were increasingly used, and the wooden floor replaced packed earth.

Greek revival architectural style, popular on the East Coast by the 1820s, was introduced several decades later in New Mexico. By combining the native Spanish Pueblo style with the Greek revival, the Territorial style was born. New Mexicans found that a brick cap protected an adobe wall and kept it from melting. To their adobe buildings they also added narrow windows at the sides of the entry doors, big casement windows, wooden moldings and Greek revival elements. But roofs remained flat.

When the Bishop Lamy arrived in 1851, he and his priests didn't care for New Mexico's mud churches or its traditional art. They razed some churches and built new brick, Gothic style churches in other towns. Albuquerque's San Felipe church was spared. It did get some wooden trim on the towers to create Gothic shapes.

With the coming of the railroad in 1880, newcomers arrived with their favorite architectural styles and by 1900, a whole range of styles appeared. It had taken decades for them to be introduced elsewhere, but with a diverse population, easy transportation of building materials, and knowledge of designs, these imported styles changed Albuquerque's built environment. Suddenly Albuquerque had sections of town that resembled the East or MidWest.

Long-time merchant Mariano Armijo was one who embraced the changes, when he decided it was time for Albuquerque to have its first elegant hotel. In 1882 he chose to build in New Town, which had sprouted along the railroad tracks, rather than on the plaza in Old Town. And he turned away from traditional adobe architecture to construct the three-story Armijo House with a distinctive Mansard roof. (The building, at Third and Railroad Avenue burned in 1897.)

Similarly, merchant Franz Huning in 1884 built a 14-room mansion of *terrones* (sod), a traditional material. But the Italian-style Castle Huning was faced with wooden paneling and painted to resemble brick. (Castle Huning, at Railroad Avenue and Fifteenth Street, was torn down in 1955.)

Much of the new building in New Town was of brownstone, mimicking styles popular in the east. As the 1900s approached, the Spanish Pueblo and Territorial styles were disappearing.

William G. Tight and Pueblo Revival

The tide began to turn when William G. Tight became president of UNM in 1901. The university's first buildings, University Hall (now Hodgin Hall) and Hadley Hall, were Richardson Romanesque structures of brick and sandstone – typical buildings for a Midwestern campus.

Tight, an easterner, was captivated by Pueblo architecture and culture. He frequently visited area pueblos with camera and sketchpad and began to incubate his concept for a distinctive type of architecture for the university. Local buildings, he said, should reflect local culture. Albuquerque architect Edward Buxton Christy provided him with drawings, and he launched his campaign to make UNM "the pueblo on the mesa."

Tight and his students built the first structure, a power plant, of adobe. Tight also supervised the first dormitories for men and women – also in Pueblo style with vigas, woodwork decorated in Indian symbols and corner fireplaces.

On the east side of campus he built an *estufa*, a replica of the kiva at Santo Domingo Pueblo. Next Tight determined to "pueblo-ize" University and Hadley halls. Workers removed the steep roof and the fourth floor of Hodgin, along with gables, cornices and chimneys. The buildings gained vigas, pillars and balconies. Stucco covered the brick.

Faculty and students liked the new look, but Albuquerque residents didn't. Some called it a "reversion to the primitive." The public uproar prompted the Board of Regents to find an excuse to fire him in 1909. Tight died a few months later and didn't see his ideas flower.

In the early 1900s the railroad started constructing its own buildings in Pueblo style. About this time, Albuquerqueans began to realize that part of the ambience attractive to visitors was the experience of a unique architectural environment. If the trend of importing styles continued, New Mexico would have nothing to offer. So the traditional architectural styles were revisited.

In 1927 the UNM Board of Regents formally adopted the Pueblo architectural style for campus buildings. In 1933 John Gaw Meem, a prominent supporter of Pueblo style, became university architect.

Meem melded these styles and brought them into the 20th century with his Pueblo Revival style, which employed vigas, rounded corners, and multiple stories with sloped or terraced walls. He designed 30 structures on UNM's campus. Two notable ones in the 1930s, the Administration Building (Scholes Hall) and Zimmerman Library, were funded through WPA sources. This solidified the campus as one with an immediate sense of place and featured award-winning buildings and landscape designs.

The Birth of Pueblo Deco

This popularity of Spanish-Pueblo design carried over to the community. Numbers of commercial buildings maintained the trend. The KiMo Theatre, built in 1927, was designed by Hollywood architect Carl Boller, in Pueblo Deco style, which embraced the

old and the new and added Indian designs. It was one of the nation's first theaters with a cantilevered balcony, which didn't require view-blocking support beams.

The Hotel Franciscan in 1923, designed by Trost & Trost of El Paso, had a number of Spanish and Pueblo features, including an eight-story central room block set back from the street above the first floor and flanked by three, four-story towers. It also featured concrete vigas, *canales*, simulated adobe walls, a portal with wooden posts, and corbels. The concrete was finished to look like adobe. Interior furnishings were also Southwestern. It was the first major, downtown building to employ Southwestern design to appeal to visitors.

In 1926 the school district demolished the three-story brick Victorian school building at Central and Edith and erected a new Pueblo Revival public library, which survives. (City workmen used the brick to build a fire station.) In 1932 the federal government built the $1.25 million Veterans' Administration hospital complex of 16 buildings on the Southeast Mesa in Pueblo style.

Other Pueblo Deco buildings remaining from the 1930s are the Maisel Building at 510 Central SW (the exterior was designed by John Gaw Meem) and the Albuquerque Indian Hospital near the UNM Medical Center on Lomas, designed by Hans Stamm.

A Variety of Styles

Other buildings reflected outside influences.

The Alvarado Hotel, completed in 1902, was the finest railroad hotel of its time. Charles F. Whittlesey designed the California Mission-style building, which featured towers, balconies, and arcades supported by arches. It had 75 rooms, parlors, a barbershop, a club, a reading room and a Harvey dining room. It also offered electricity and steam heat, luxuries at the time. Whittlesey's mark is on a number of railroad hotels, but he's probably best known for designing El Tovar at the Grand Canyon.

The Hudson Hotel, built in 1905 at 202 Central NE, was a Romanesque style structure, with massive brick scale, round arches, and molding on the gables. It's the last remaining hotel of the railroad period. In 1908 the federal government built in Renaissance Revival style the former post office at Fourth and Gold. In 1910 the Rosenwald building, a department store, was the first fireproof, reinforced concrete building in state.

In 1914 the old Albuquerque High School at Central and Broadway was built in Gothic style, with arched doors and bay windows. Another distinctive building that still stands is the 1917 Occidental Life Insurance Co. building at Third and Gold, modeled on the Doge's Palace in Venice. It's a masonry building faced with white tile. The architects were Trost & Trost of El Paso, who designed many of Albuquerque's commercial buildings in those years.

Albuquerque got its first two skyscrapers in the early 1920s, both designed in Renaissance style by Trost & Trost. The first was the nine-story First National Bank building at Central and Third Street, built in 1922 by the pioneer banking Raynolds family. It featured tall, arched windows on the first floor and decorative details. Leading physicians, dentists, law firms and insurance agencies all wanted space in the building.

In 1923 the six-story Sunshine Building went up at Second and Central. It was Albuquerque's first big theater and boasted an ornate marble lobby.

In 1930 the federal government built a second building next to the downtown post office. It was a six-story courthouse and office building, which indicated the government's increasing presence in the city.

Modern Architecture

When the Depression struck, after the Stock Market Crash of 1929, commercial building in Albuquerque ground to a halt. In the 1930s an infusion of federal relief money would fuel construction of numerous buildings at UNM, as well as the State Fairgrounds and the first municipal airport – all in Pueblo style.

After the war, driven by the city's vigorous growth, commercial building began again, but now one aim was to accommodate the ubiquitous automobile. Route 66 was busy, and motels and diners, many in the period's Deco style, popped up along Fourth and Bridge streets, the early alignment of Route 66, and then Central.

In 1949 R.B. Waggoman completed the Nob Hill Business Center, which was the city's first shopping center. Farther east on Central the Highland Shopping Center bloomed in 1951, with the Hiland Theater. Way out on the East Mesa Hoffmantown Shopping Center also took shape in 1951.

Old Town, over its long life, had remained a quiet and separate village of adobe and Victorian homes. It wasn't incorporated into Albuquerque until 1949. At that time it was becoming a tourist magnet. To meet visitors' expectations of an old adobe village, merchants altered facades, added second stories, and built new buildings. Victorian buildings disappeared behind pueblo facades.

While old-fashioned (or the appearance of old-fashioned) charm was suitable for Old Town, it wasn't for the rest of Albuquerque. Like the rest of post-war America, Albuquerque strived for modernity.

That's why boosters didn't shed a tear in 1953 when the handsome, brownstone Albuquerque Commercial Club, the forerunner of the Chamber of Commerce, was razed to build the 13-story Simms Building. It then became the city's tallest skyscraper and the first in the modern International style of architecture, which valued simplicity over ornamentation. This style would be replicated in hundreds of buildings in the 1950s and 1960s. However, in a salute to the old, Simms builders incorporated one wall of the old club. The architect was Max Flatow.

In 1959 the wonderful old Pueblo style Wright's Trading Post was leveled to build the Bank of New Mexico Building. In quick succession more tall buildings joined the city's growing skyline, each vying to be tallest. At San Mateo and Central the 17-story First National Bank Building became the city's tallest in 1963. In 1966 the 18-story National Building (now the Compass Bank Building), at Fifth and Marquette became the tallest. In the same period, the Bank Securities Building at Lomas and Second (now the Wells Fargo Building) and the 13-story federal building were also built.

Photographers complained that the city's skyline was changing so rapidly that their pictures became outdated in months.

At the same time, shopping centers exploded in Albuquerque. It was convenient to the new neighborhoods growing quickly in outlying areas, but it was the beginning of the end for downtown retail.

In 1961, Winrock Shopping Center opened. UNM president Tom Popejoy had convinced financier Winthrop Rockefeller to lease university property in the Northeast

Heights. Rockefeller called his project the first “regional shopping center.” That year Dale Bellamah built the Northdale Shopping Center in the North Valley and the Eastdale Shopping Center in the Northeast Heights, and Elmer Sproul built Indian Plaza at Indian School and Carlisle. It gained its trademark arrow because Sproul’s logo was an arrow.

Coronado Shopping Center followed in 1965, built by Sears subsidiary Homart Development.

By the early 1960s, the old airport terminal building was too small, so the city built a new one, which opened in 1963 and has since been expanded and upgraded several times. The Albuquerque International Sunport evokes New Mexico by the building design, decorative elements, and the beautiful artwork collection. This commitment to a Southwestern design provides a sense of identity to a commercial and institutional space that visitors admire and that locals appreciate returning to after their journeys.

In 1966 UNM built University Arena, better known as The Pit, with a seating capacity of 15,000 fans. In 1975 the university added a mezzanine, expanding space for 18,000. Known for its efficient use of space and design, which makes the crowd a part of the event, it’s one of the top 25 sports venues in the country.

This was a period of firsts, as modern architecture made its mark. Unfortunately, it also saw the wrecking ball that characterized Urban Renewal, which destroyed many of the city’s best known landmarks in the name of modernism. The 1970s opened with the demolition of Albuquerque’s architectural jewel, the Alvarado Hotel, after historic preservationists failed to sway the Santa Fe Railway. And Hodgin Hall was nearly lost a year later to construction of a loop road.

New construction continued: The Convention Center in 1972, the airport terminal addition in 1973, Civic Plaza in 1974, and the Albuquerque Public Library in 1975. But the loss of the Alvarado and other city landmarks produced enough public alarm and, possibly, guilt to launch a spate of restorations. The first major historic renovation downtown was the vintage 1910 Rosenwald building by architect Van Gilbert.

In quick succession architect Harvey Hoshour directed the 1982 restoration of the KiMo Theatre after much public debate, along with restoration of the Occidental Life Insurance Building. Flatow, Moore, Bryan & Associates restored the First National Bank Building, and Boehning, Protz, Cook & Associates restored the Sunshine Building.

In the 1980s more buildings joined the downtown skyline: The First Plaza complex on Second St., PNM’s Alvarado Square, the 11-story city-county building, the 15-story Marquette Building, and the Sunwest Bank Building. Construction began in January 1988 on Albuquerque Plaza, a 22- story office tower and neighboring 20-story Hyatt Regency Hotel. The office tower is now the tallest building in New Mexico.

In the cultural arena, the last ten years have seen the creation of the Albuquerque Biopark and Aquarium, the National Hispanic Cultural Center, the Anderson-Abruzzo Balloon Museum, and Explora Science Center and Children’s Museum. The city completed major expansions and renovations of Tingley Beach, the Albuquerque Museum of Art and History, the Atomic Museum, and the baseball stadium.

The architectural community is well represented with a thriving American Institute of Architects chapter, The Albuquerque Conservation Association (TACA) and the New Mexico Architectural Foundation.

Albuquerque also has the distinction of being home to such internationally renowned architects as Bart Prince and Antoine Predock.

Resources:

Albuquerque's Environmental Story: http://www.cabq.gov/aes/

Bunting, Bainbridge. Early Architecture in New Mexico.

Fitzpatrick, George and Caplin, Harvey. Albuquerque: 100 Years in Pictures, 1875-1975.

Simmons, Marc. Albuquerque: A Narrative History.

Lesson Plan: Albuquerque Architecture

The Tricentennial Education Task Force does not have a lesson plan for this subject presently. We encourage teachers to develop their own and to watch albuquerque300.org for a lesson plan to be posted in the future.

This background can also be used in conjunction with Neighborhoods.

Racing Firemen to Lobomania
History of Sports in Albuquerque

From the beginning, there was running. The area's Indian tribes relied on runners to carry news from group to group. Runners not only had to be strong and fleet, they had to accurately relay information – the group's safety might depend on it. Footraces were also popular as sporting events.

Running is still important here, but the city has also produced notable athletes in many sports.

Racing

When Spaniards colonized New Mexico and brought horses with them, the first horse race probably occurred soon after. Horse racing was well enough established that when a handful of prominent Albuquerque businessmen organized the first Territorial Fair near Old Town in 1881, the first structure they built was a racetrack and grandstand. (Exhibits were housed in tents.) The racetrack offered sulky, horse, burro, mule and foot races.

The crowd had plenty to watch. As races continued, the Albuquerque Browns played baseball in the oval inside the track. Betting was heavy on both races and baseball. In its second year the fair included a four-mile foot race by Zuni runners. Other events were horse and harness racing, bicycle and burro racing. A 1908 photograph of the Indian Marathon shows runners in bare feet or moccasins.

In 1917 the fair succumbed to financial pressures, but local boosters revived the fair in the 1930s. In 1935 the Legislature passed a measure that allowed tracks to keep a portion of racing bets. It wasn't aimed at the fair, exactly, but it provided a needed source of revenue. When Gov. Clyde Tingley secured funding from the federal Works Progress Administration, one of the first developments at the new site was a one-mile track, grandstand, racing office and jockey room. The fair reopened in 1938.

New Mexico was then the only state with pari-mutuel racing, and 5,000 fans packed the grandstand the first day. Horsemen – some from as far away as Montana – filled the adobe stalls. There were harness and steeplechase races, trotters and pacers.

That year the fair refused to register two women jockeys, Harriet Coneel and Helen Currier. Two other female riders, Wanda Banks and Alma Lloyd, had obtained their racing licenses from another track before the fair. Banks and Lloyd were two of the best riders ever to race in New Mexico and were so popular with fans that fair officials built a female dressing area for them the next year.

After the war, fair racing became the biggest such event in the Rocky Mountain region. One event, the New Mexico State Fair Futurity is the oldest continuously run American Quarter Horse stakes race. This contest between New Mexico-bred American Quarter Horses has been run at the fairgrounds since 1946.

Horse racing declined in the last few decades, but it's revived with The Downs at Albuquerque, which offers thoroughbred and quarter horse racing at the State Fairgrounds.

Athletic Firemen

Another sport in the 1880s and 1890s was the endurance contest between companies of volunteer firemen. In those days, firemen, and not horses, pulled the fire cart. The first men to respond to a fire bell began towing it toward the fire; others dashed through the streets and took their places inside a harness. As the men and their cart gained speed, the slower runners released their harnesses and got out of the way.

At the early state fairs firemen competed in such events as coupling team trials, wet and dry hose tests and hose cart and foot races. These events became so popular, they drew contestants from Arizona. Betting could reach $15,000 on an event, and the outcome was a matter of civic pride.

The National Pastime

In 1880, W.T. McCreight, a former player with the St. Louis Browns, organized Albuquerque's first baseball team. He also organized a training club of boys called McCreight's Colts. McCreight was foreman of the Albuquerque Publishing Co.

Because baseball season was finished in the East when the Territorial Fair opened, major league players could be recruited for $100 plus expenses. Sometimes they formed a team to play exhibition games against the Browns, and sometimes they joined the Browns for games against rival towns. Albuquerque's arch rival then was San Marcial, near Socorro. In 1894 the San Marcial team lost its game and its bets and had to walk home.

The first Albuquerque Dukes played in 1915. In 1931 the Albuquerque Dons became the city's first professional team. During the Depression, Gov. Clyde Tingley secured federal WPA funding to build bleachers and a 4,000-seat concrete grandstand at the ballpark at 10th and Atlantic in the Barelas Neighborhood.

When it opened in 1937, Branch Rickey, general manager of the St. Louis Cardinals, had high praise for Tingley and the Works Progress Administration. The Albuquerque Cardinals then lost an exhibition game to the visiting Pittsburgh Pirates. In 1938 the park was named Tingley Field.

Tingley Field had a capacity of 3,000 seats, but often 5,000 fans overflowed the stadium. When the batter hit a home run, he strolled along the bleachers, and fans handed him money.

The Albuquerque Cardinals were a farm club to the St. Louis Cardinals from 1937 to 1941. During World War II Tingley Field closed from 1942 until 1946. Baseball fans were entertained by semi-pro clubs and Kirtland's Flying Kellys, which included major and minor league players.

In 1945 the team was sold and joined the West Texas-New Mexico League, playing as the Albuquerque Dukes until 1958. In 1954 a local pitcher joined the team for a time: Pete Domenici.

Baseball's popularity waned in Albuquerque in the early 1950s, and "Save the Dukes" became a slogan by 1954. A local group bought the team, and they continued to play ball, but they were losing money. Farmington oilman Tom Bolack assumed the team's debts in 1956. Bolack negotiated a working arrangement with the Cincinnati Reds in 1958, then the Kansas City Athletics in 1960. In 1963 the Los Angeles Dodgers bought the franchise from Bolack, and the team became a Triple-A club. They were renamed the Albuquerque Dodgers in 1965.

Baseball continued in Tingley Field until 1968 when the existing stadium first opened.

Robert Lozinak bought the team from the Dodgers in 1979 and sold it in March 2000 to a group in Portland, Ore. The Dukes departed for good.

Bereft of their team and convinced they needed a better stadium to lure a new team, Albuquerque voters in May 2001 approved general obligation bonds to upgrade the stadium. Businessmen Ken Young and Mike Koldyke acquired the Calgary Cannons and moved them to Albuquerque, then signed an agreement with the Florida Marlins.

In 2004 Triple-A baseball returned with completion of an 18-month, $28.8 million renovation of the stadium. Inspired by an episode of "The Simpsons," team owners chose to call their team the Isotopes. The new Isotopes Park has a capacity of 13,000, up from 7,500 previously and is one of the finest stadiums in the Pacific Coast League.

The Best of the Best

Owen Smaulding, who moved to Albuquerque from Clayton, N.M., was named the most outstanding athlete in the United States in 1915. He participated in track, football, tennis, baseball and race-car driving. In 1937 he managed a team called the Collegians and later the St. Louis Blues, playing in the Negro Baseball League. He alternated pitching with Satchel Page.

Car Racing

Albuquerque's first speed limit in 1908 was 8 miles an hour. That didn't keep automobile enthusiasts from finding out who had the fastest vehicle.

In 1916 the state's first distance car race took place. The Albuquerque Automobile Racing Association staged a race from Albuquerque to Gallup over a segment of the National Old Trails system, the forerunner of Route 66. It normally took 13 hours to drive from Albuquerque to Gallup. In that race Lloyd Cunningham, driving a Maxwell, won in six hours, 53 minutes.

Albuquerque would gain a high profile in car racing from the Unser family, who in the 1940s operated a wrecking service at their Unser Garage on 7700 Central SW. Since 1964, either Al Unser, brother Bobby or Al Jr. has been in every Indianapolis 500 except one. Al won four races, Bobby won three, and Al Jr. won two.

The Unsers have opened their Unser Racing Museum in the North Valley.

Lobo Football

UNM started its football program in 1892, three years after the school was founded. Back then the team was called the University Boys. They lost their first game on Oct. 7 to Albuquerque High School by a score of 5-0.

In 1920 a UNM student journalist named George S. Bryan suggested "Lobo" (Spanish for "wolf") as UNM's mascot. "The Lobo is respected for his cunning, feared for his prowess, and is the leader of the pack," he wrote in an editorial in the Oct. 1, 1920, issue of the UNM student newspaper.

That was the same year Coach Roy Johnson arrived at UNM. Johnson was a shot in the arm to an otherwise lackluster athletic program. From then until 1959, he coached football, basketball and track, and his teams were winners. For his huge impact Johnson

Gym, built in 1957, was named for him. In 1958 the first eight black football players joined the team.

UNM has produced two football stars: Halfback Don Perkins, later with the Dallas Cowboys, who played during a winning seven-season stretch (1958-64); and Brian Urlacher, with the Chicago Bears.

Lobo Basketball

University basketball players had posted years of losses through the 1940s and 1950s. Lobo Basketball as we know it today didn't begin until Bob King arrived in 1962 from Iowa. King brought a 6-foot-81/2-inch player named Ira Harge, who would become one of the university's greatest athletes.

King quickly turned the team around, and fans noticed. Tepid crowds of a few hundred quickly grew to thousands and began filling Johnson Gym. In 1966 UNM built University Arena, fondly known as The Pit, saving money by hollowing an arena out of the ground instead of erecting it above ground, and 7,000 fans became 15,000 fans. Screaming, barking, howling fans. Lobomania was born. In 1975 the university added a mezzanine, expanding space for 18,000. And the fans are still wild.

Bob King died in 2004 and was eulogized as the architect of Lobo basketball.

Lady Lobos had an equally modest beginning. Before New Mexico was a state, UNM women had two basketball teams – the Olympians and Gladiators. They played in knee-length bloomers, heavy stockings and big collars with bows.

In the 1970s, thanks to Title IX, women's sports began in earnest at UNM. From the 1990s on, women's basketball, under the guidance of coach Don Flanagan, took off and has been nationally ranked in attendance for years.

Boxing

Boxing has long been part of the city's sports scene. In 1897 the first movie shown in Albuquerque was of a fight between boxers Bob Fitzsimmons and James Corbett for the world championship.

Fighter Bobbie Foster had a training gym in Albuquerque. He won the world light heavyweight title in 1968 and kept it until he retired in 1974 with 56 wins, eight losses and one tie. In his time he took on such daunting opponents as Joe Frazier and Muhammad Ali. When he wasn't boxing, Foster was a Bernalillo County deputy sheriff. For his weight, he was one of the deadliest punchers in history.

In recent years, Johnny Tapia is a five-time world champion. Danny Romero is a three-time world champion.

Skiing

Albuquerque's first skier was probably Charlotte Ellis, who in 1896 strapped on a pair of skis crafted by her brother and set out in the Sandias, where her father established a homestead.

The father of skiing as we know it was Bob Nordhaus. Growing up in Albuquerque, Nordhaus had already spent time in the mountains, but as a Yale student in the early 1930s, he came to appreciate the popularity of skiing in the East. When he returned to Albuquerque in 1935, he and wife Virginia skied by walking up slopes and

sliding down. In 1936 he organized the Albuquerque Ski Club. There was no ski area, no tow and nobody to teach them the sport. Skis were wooden; rubber from inner tubes held boots to skis.

That year the U.S. Forest Service built a small warming hut and cleared a slope at Tree Spring in the Sandias. Next the agency established a system of trails, and La Madera Ski Area was born.

In 1940 Nordhaus enlisted and, because of his skiing experience, served in the famed 10th Mountain Division. When he returned after the war, in 1945, he started a rope tow at La Madera. Lift tickets were $1. Nordhaus decided to turn his hobby into a business and formed La Madera Co. He bought the club's assets, sold stock, and built a T-bar lift that was the longest in the nation. But the weather didn't cooperate, and it wasn't profitable for years.

In 1957 Ben Abruzzo became ski area manager and a year later bought half the assets from Nordhaus. Two years later the road to the ski area was paved. In 1963 they added a double-chair lift and a mountain-top restaurant and changed the name of the ski area to Sandia Peak.

Golf

Notah Begay III is from Albuquerque and learned to play at Ladera Golf Course. Half Navajo and half Pueblo, he's the first Native American player to reach top-ten status on the PGA. And he was the only player who could putt equally well right-handed or left-handed.

And another Albuquerquean, Rosie Jones, won more than $4 million during her LPGA career.

Olympics

Cathy Carr West and Trent Dimas are New Mexico's Olympic gold medalists. She won her gold in swimming in 1972 at Munich; he won his in gymnastics in 1992 at Barcelona.

Resources:

Albuquerque Journal: Albuquerque Tricentennial Official Guide.

Garcia, Nasario. Albuquerque Feliz Cumpleaños! Three Centures to Remember.

McIntyre, Wade. State Fair! The Biggest Show in New Mexico.

Salman, Pamela. Sandia Peak: A History of the Sandia Peak Tramway and Ski Area.

Simmons, Marc. Albuquerque: A Narrative History.

Lesson Plan: History of Sports in Albuquerque

Subject: Language Arts, History
Objective: Students will understand that games, sports and athletics are an integral part of Albuquerque history and the American way of life. Albuquerque is affected by athletics at the University of New Mexico, professional sports, as well as individual high schools and other community sports groups. Certain athletic facilities are well known in the community and part of Albuquerque history.

New Mexico Standards: Language Arts
Strand 1: Reading Process
Content Standard: Students employ appropriate strategies to read and interpret increasingly complex texts for a variety of purposes.
Benchmark: The student demonstrates competence with reading processes to comprehend, analyze, interpret, and evaluate a wide variety of texts across content areas.
Performance Standard 7. 1: Increases and monitors reading comprehension: asks questions when unsure of information, draws inferences about information, generates further questions, and uses knowledge of context and vocabulary to understand text.
Performance Standard 7.2: Organizes information that is read: summarizes the information, explains the importance of the information, and describes connections between related topics and information.
Performance Standard 7.3: Vocabulary Development: Demonstrates strategies to define and extend understanding of word meaning.
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Strand IV: Expressive Language Speaking
Content Standard: Student speaks effectively for different audiences and purposes using appropriate speaking strategies and conventions.
Benchmark: Student develops and demonstrates proficiency and competence in speaking strategies and in appropriate speaking conventions to describe, narrate, express, persuade and analyze for a variety of purposes and audiences.
Performance Standard 7. 1: Speaking strategies: demonstrates increasing proficiency with speaking strategies. Chooses language that is precise, engaging and well suited to the topic and audience, uses figurative language and a variety of speech patterns to effectively express ideas; demonstrates continued progress in asking relevant questions.

Time: The teacher may expand these activities from three to five days, depending on the level of detail and research expected.

Materials:

- Computer with Internet access
- 3 x 5 index cards

Activity 1: Television Sports Broadcast

Students will simulate a television broadcast and conduct a feature interview based on an Albuquerque sports figure from the past or present. Students may find sports figures from the following:

- Sports pages of the Albuquerque Journal or Tribune and newspaper archives
- Web site for the Albuquerque Sports Hall of Fame, www.ashf.org
- University of New Mexico Web site, www.unm.edu, which lists the UNM Athletic Hall of Honor
- New Mexico Activities Association's Hall of Pride and Honor, 6600 Palomas NE, near the intersection of Paseo del Norte and San Pedro, 923-3110
- University of New Mexico Athletic Department publications

Students will work in pairs with one student being the sportscaster conducting the interview and the other student being the person interviewed. The feature interview should last 2 to 3 minutes. The sportscaster will introduce the "sports figure" and give basic information about the person. The interview will then continue with a minimum of 6 questions and answers, which tell about that person and explain the accomplishment of the person. Students can ham it up if they're inclined. They can also plan costumes. This could be expanded by inviting a local television sports personality to come watch the class "broadcast." The television personality could describe his experiences.

Activity 2: Trivial Pursuit or Jeopardy Game

This activity will result in a game which can be used throughout the school year to fill in short time periods.

Step 1: Students will work in teams of 2 or 3 and prepare a series of question and answer 3 x 5 cards based on any aspect of Albuquerque area sports and athletics. Students will research sports information from:

- Sports pages of the Albuquerque Journal or Tribune and newspaper archives
- Web site for the Albuquerque Sports Hall of Fame, www.ashf.org
- University of New Mexico Web site, www.unm.edu, which lists the UNM Athletic Hall of Honor
- New Mexico Activities Association's Hall of Pride and Honor, 6600 Palomas NE, near the intersection of Paseo del Norte and San Pedro, 923-3110, University of New Mexico Athletic Department publications

Depending on the class, the teacher may choose to assign students to different categories or a time frame of sports history (to minimize duplication). Otherwise students may select their Q & A information at random. The 16 questions and answers will come from four general categories with four questions and answers per category. Categories may include:

- Specific team sports, such as UNM football or basketball or the Albuquerque Isotopes.
- Sports terminology or facts, such as "a home run" or the length of time in a round of boxing.
- Sport facility locations and/or statistics, such as when The Pit was built or the seating capacity of UNM Stadium.
- Individual athletes, such as an Albuquerquean who won an Olympic medal.

More categories or sub categories may be created. For example, Lobo basketball or the Albuquerque Dukes could be its own category.

Step 2: The question and answer cards may be used in a “Jeopardy” format, with students “buzzing” if they know the answer. Or the cards may be used in a “Trivial Pursuit” format in which teams are created and work together to determine the answer.

"The Mother Road"
Route 66

Today, we take it for granted that we can get in our cars and drive to the next town, the next state, or across the country. That's actually a fairly recent development.

In 1915 New Mexico had 4,250 cars and 92 dealers. But the state's "roads" were more likely to be cow paths or two-track wagon trails. They didn't always connect. There were few bridges, no signs and no services. The journey from Albuquerque to Gallup, for example, was a 13-hour excursion fraught with blown tires, sand traps, arroyos and livestock.

National Old Trails Highway

By 1915 work was underway on a transcontinental highway system called the National Old Trails Highway. That year New Mexicans, along with other Americans, wanted better roads, and the government wanted a more efficient transportation network for mail delivery. In 1916 President Woodrow Wilson signed a bill calling for a national system of highways, which laid the groundwork for public financing.

In 1923 the U.S. Bureau of Public Roads was organized. A nationwide movement made up of hundreds of groups was then pushing for good roads, and they all wanted roads paved through their towns. In the next couple of years, about 250 trails in the United States would gain signs and markers supported by travelers' contributions, but they were confusing, inconsistent and not always accurate.

The Beginning

In 1926 the government started marking the roads with the familiar black and white shields. The numerical designation 66 was assigned to the Chicago-to-LosAngeles route. It would become one of the nation's principal east-west arteries.

Unlike other roads of its day, U.S. Route 66 wasn't east-west or north-south but a diagonal. Initially it linked hundreds of predominantly Midwestern, rural communities to Chicago, which enabled farmers to transport grain and produce for redistribution.

The diagonal configuration was particularly important to the trucking industry, which by 1930 had begun to rival the railroad as the nation's shipper. The abbreviated route between Chicago and the Pacific coast traversed essentially flat lands through more temperate climate zones than northern highways, which made it especially appealing to truckers.

In New Mexico Route 66 originally followed a circuitous 507-mile path. It entered from Texas and passed through Santa Rosa, veered northwest up the Pecos Valley to Romeroville, near Las Vegas, piggybacked on Highway 85 south through Santa Fe, passed through Albuquerque on Fourth Street, and then headed south to Los Lunas before aiming west again.

Realignment

There are two stories about how New Mexico's S-curve got straightened out.

The more interesting story is that Gov. A. T. Hannett, miffed at what he considered a political betrayal, decided to reroute the road to exclude Santa Fe. Laying a ruler across a map between Santa Rosa and Gallup, he told highway engineers to blaze a new route. The curve was straightened by the time Hannett's successor took office in 1927.

The less interesting, and probably more accurate, story is that in 1931 the Bureau of Federal Highways wanted a road that ran straight west from Santa Rosa and debated between Albuquerque and Mountainair. After furious lobbying by both the City Commission and the Chamber of Commerce, Albuquerque prevailed. Maps in that year still show the old route, so this is additional evidence in support of the bureaucratic decision.

Not surprisingly, Santa Fe and Los Lunas objected to losing this lucrative traffic. Road crews pulled together an odd collection of war surplus Caterpillars, tractors and graders and began building a road, slowed on occasion by sugar in the gas tank or sand in the engine. To discourage sabotage, the highway engineer distributed blankets so his men could sleep next to their equipment.

Route 66 through the state was now 399 miles long.

The new alignment shifted Route 66 from Fourth Street to Central Avenue through Albuquerque, and tourist services now sprouted along Central.

The Depression

After 1929, when the Great Depression tightened its grip on the nation's economic throat, one of the government's first efforts at relief was to provide jobs by paying for road construction. From 1933 to 1938 thousands of unemployed young men from virtually every state found work as laborers on road gangs.

New Mexico got its share. Gov. Clyde Tingley would prove himself adept at bringing government money to the state for public works projects. In this way Route 66 was finally paved from Chicago to L.A. Imagine 2,448 glorious miles of all-weather road!

The paving increased travel and new businesses. In 1935 Albuquerque had 16 tourist camps and courts on Fourth Street and three on Central. After the realignment, new clusters of motels and curio shops appeared along Central. The oldest surviving Route 66 motels are the Aztec Motel at 3821 Central NE, opened in 1932; the Town Lodge at 4101 Central NE, in 1935; El Vado, west of Old Town, in 1937; and the De Anza Motor Lodge, in 1939.

During the Depression, Route 66 was an economic transfusion. Besides stimulating the hospitality industry, trading posts and Indian artisans benefited when traders opened stores along the route, offering high-quality rugs and pottery along with the typical tourist fare.

As the Depression deepened, exacerbated by the Dust Bowl, there was a sadder story being told along Route 66, as an estimated 210,000 people migrated to California in desperate search of work. In 1939 author John Steinbeck called U.S. Highway 66 "The Mother Road" in his classic novel of the Depression, The Grapes of Wrath. The book and movie of the same name immortalized Route 66 in the American consciousness.

Post-War Traffic

During World War II the War Department made heavy use of the road for mobilization. But gas rationing nearly dried up traffic on Route 66. It was devastating to roadside businesses.

After the war, as returning soldiers headed west with their families in new cars, Route 66 was humming again. Motels and curio shops flourished, and neon signs proliferated. New kinds of businesses appeared – drive-ins and shopping centers.

Route 66 wasn't just a road – it was a cultural hallmark. In 1946 Bobby Troup, driving his 1941 Buick convertible the length of Route 66 penned his famous song, which Nat King Cole turned into a hit that we're still singing: "Get your kicks on Route 66." And there was a TV show called "Route 66" in the 1960s.

In 1956 the government launched the Federal Interstate Highway system. It was the beginning of the end. By 1966 I-25 and 1-40 were completed through Albuquerque. Route 66 was decommissioned in 1985 after the last segment of I-40 had bypassed it. The black-and-white Route 66 shields came down, replaced by the red, white and blue interstate markers.

Route 66 is hardly forgotten. Today it's part of the National Scenic and Historic Byway system. New Mexico boasts six long, paved segments of Route 66 that are accessible from Interstates 40 and 25. Two of the segments are through Albuquerque. Thousands of Route 66 buffs, including foreign tourists, spend their vacations driving segments of the road. There are numerous Route 66 organizations.

Resources:

New Mexico Route 66 Association, http://www.rt66nm.org
National Historic Route 66 Federation, http://www.national66.com

Rittenhouse, A Guidebook to Highway 66.

Scott, Quinta and Kelly, Susan Croce. Route 66: The Highway and its People.

Wallis, Michael. Route 66: The Mother Road.

Lesson Plan: Route 66

Subject: History, Geography

Description: Students will learn about how Route 66 affected Albuquerque's economic and physical development.

Introduction:

Learning about Route 66 provides opportunities for students to engage in various types of research: oral interviews, Internet, books and magazine and newspaper archives. Because of the interest in Route 66, there are many Web sites for information. Also, most students will have family members with recollections of traveling on Route 66. Students and their families should be encouraged to drive a part of Albuquerque's Route 66, which still has significant examples of period architecture in motels and restaurants built in the 1930s and 1940s. The entire length of Central Ave. has many examples, as does Fourth Street.

New Mexico Standards: Social Studies
Strand 1: History
Content Standard: 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.
Benchmark I-A, New Mexico: Explore and explain how people and events have influenced the development of New Mexico up to the present day.
Performance Standard 7.5: 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).
Performance Standard 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., individuals, governments, railroads, tribal)
- Government land grants and treaties
- Transportation (e.g., wagons, railroads, automobile)
- Identification and use of natural and human resources
- Population growth and economic patterns.

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Strand II: Geography
Content Standard: Students understand how physical, natural, and cultural processes influence where people live, the ways in which people live, and how societies interact with one another and their environments.
Benchmark II-A: Analyze and evaluate the characteristics and purposes of geographic tools, knowledge, skills and perspectives and apply them to explain the past, present, and future in terms of patterns, events, and issues.
Performance Standard 7.1: Describe ways that mental maps reflect attitudes about places.
Performance Standard 7.2: Describe factors affecting location of human activities, including land use patterns in urban, suburban, and rural areas.

Benchmark II-E: Understand how economic, political, cultural, and social processes interact to shape patterns of human populations and their interdependence, cooperation, and conflict.
Performance Standard 7.2: Describe factors affecting location of human activities, including land use patterns in urban, suburban, and rural areas.

New Mexico Standards: Language Arts
Strand III, Expressive Language: Writing
Content Standard: The student writes effectively for different audiences and purposes using appropriate writing strategies and conventions.
Benchmark: The student develops and demonstrates proficiency and competence in writing strategies and conventions across content areas to describe, narrate, express, explain, persuade, and analyze critically for a variety of purposes and audiences.
Performance Standard 7.1: Demonstrates increasing proficiency in using the writing process to create a final product.
Performance Standard 7.4: Demonstrates increasing proficiency with writing conventions (grammar, spelling capitalization, punctuation).
Performance Standard 7.5: Demonstrates increasing proficiency in applying appropriate types of writing for the intended purpose and audience: develops understanding and skill during the process of doing background research for essays and presentations.
Performance Standard 7.6: Narrates an account that creates a coherent organizing structure appropriate to purpose, audience, and context which orients and engages the reader.

Background and Set Up
The teacher will set up a KWL chart to assess what students know and want to know about Route 66. Later the L section will be filled in to reflect what has been learned. A KWL chart is a three-column chart that can be drawn out on a sheet of butcher paper. The teacher divides the chart into the three columns labeled "Know/Want to Know/Learned. This is an opportunity for teachers to assess previous knowledge or experience with the topic and for students to generate interest in the topic.

Instruction:
Using the historical background along with a New Mexico map and United States map, the teacher will lecture or lead a lecture and discussion to introduce the impact the opening of Route 66 had on the economy and physical development of Albuquerque. It will include the specific dates and the time line of the construction of Rt. 66.

Questions:
- **Why are cross country roadways important?**
- **What kinds of goods and materials are transported?** Food, clothing, building materials,
- **How were goods and materials transported before improved roadways?** Trains were the primary means of transporting goods.
- **Why did the original Route 66 go north to Santa Fe rather than coming through Tijeras Canyon?** A route through Tijeras Canyon was a costly construction project, which was not funded till the federal government invested in road building as part of the New Deal.

- **What were some impressions of New Mexico and the "Wild West" held by travelers from outside the state?** Movies depicted the Southwest as a place of cowboys and Indians, cattle drives, rattlesnakes, and hot, dry, life-threatening desert. This is what some people from other parts of the United States, especially the East, expected to see here.
- **How were cars different in the 1940s and 1950?** Students might respond that cars were much larger; there was no air conditioning or seat belts. If the car had a radio, the few stations had limited signal range.
- **What services would a traveler need?** Travelers needed gasoline, food, and lodging. Trips had to be planned based on the location and hours of operation of gasoline stations, restaurants and motels. This was before the day of the 24-hour service station and conveniently located McDonald's! There were curio shops selling tourist items. Travelers also wanted to see unique physical landmarks such as the Grand Canyon.
- **Why would New Mexico use the slogan "Land of Enchantment" to attract visitors?**

Activity 1: Route 66 Day

Time: 2-4 days

Materials:

- Map of United States and map of New Mexico
- Blank paper, poster board, art supplies
- Computer with Internet Access
- Albuquerque Historic Route 66 Tour Guide and Map

Procedures

Students will plan a Route 66 Day where student teams will show posters, and each student will make an oral report on some aspect of Route 66 in Albuquerque or New Mexico.

Some possible topics are:

- Motels and tourist courts
- The Western Skies Motor Hotel
- Drive-in movie theaters and restaurants
- Neon signs
- Use of western images by businesses
- Advertising images
- Old Town and tourism
- Tijeras Canyon construction
- Gov. Clyde Tingley and his relationship with President Franklin Roosevelt

Students will form in groups of two or three and pick a topic, which they will research using resources such as New Mexico Magazine, Internet, interviews of family members or neighbors, books, and newspapers. Working as a group, each student will write a minimum of 75 words on their topic. The group will prepare a poster about their topic for display on Route 66 Day. Each student will make a 1 to 2 minute verbal presentation to the class based on their poster and writing assignment.

Activity 2: Vacation Journal

The student will write a journal based on an imaginary automobile trip traveling Route 66 in the 1950s. The journal should cover seven days in a row or any time period selected by the teacher. Each day should represent several paragraphs. The student should be encouraged to use as many descriptive words as possible in their writing.

They will experience many events on their trip, from amusing to unexpected. Here are some possible things that could happen on the trip: flat tire, running out of gas, expecting to get gasoline but finding the gas station closed, having to sleep in the car because the motel was full, picking up a hitch-hiker (commonplace at that time), visiting a family member in a nearby state like California, Arizona, Texas, Oklahoma; visiting the Grand Canyon.

Extensions

The City Transit Department has regular bus service on Central Avenue and the new Rapid Ride service, which only stops at special locations. Students may view various motels and commercial buildings that represent Route 66 history. Teachers may plan a field trip using city buses and arrange for use of free tokens. Call 243-7433 for information and to arrange free tokens.

Flying Fortresses, Site Able and Igloos
History of Kirtland Air Force Base

Kirtland Air Force Base, one of the nation's largest and most complex installations, has its own long history in Albuquerque. It was a natural outgrowth of early aviation efforts in the city, and it's also the product of vigorous and deliberate efforts by the Chamber of Commerce to secure a base for its economic contributions.

Early Aviation in Albuquerque

Commercial aviation got its start here in 1927, when Charles Lindbergh became the first to fly across the Atlantic. Inspired by the feat, two local railroad workers, Frank Speakman and W. Langford Franklin, leased 140 acres on the East Mesa to create an airport. They asked for city help, but the best Mayor Clyde Tingley could do was lend them city equipment after hours. They graded two runways – one about 5,300 feet and the other just under 4,000 feet. James G. Oxnard, a New York air transportation promoter, bought Franklin's interest and expanded the facility in 1928.

In 1929 Western Air Express and Trans-Continental Air Transport (the forerunner of TWA) launched competing passenger, mail, and cargo services between the Midwest and California, and both had operations here. It positioned Albuquerque as an important air traffic crossroads. When Western Air Express built its own airport on the West Mesa, that facility became known as Albuquerque Airport, and the initial airport became known as Oxnard Field. Both were private airports.

In 1935 the field manager of TWA suggested to business leaders that the city should have a municipal airport. At the time the Albuquerque Chamber of Commerce chamber was vigorously promoting an army air base as an economic stimulus to the city, and the group began to pursue both. Board members were actively lobbying personal friends and acquaintances in Washington D.C., and several, especially Oscar Love, Frank Shufflebarger and Ray McCanna often traveled to the capital. They knew it would help Albuquerque's case if it had a municipal airport.

With financial help from businessman George Kaseman, the city got an option on 2,000 acres of land. The City Commission agreed to sponsor a WPA project to build a terminal. Gov. Clyde Tingley had gained favor with President Franklin Roosevelt, and after attending FDR's second inauguration in 1936, he returned with approval for $700,000 to build a municipal airport on the Southeast Mesa.

They still needed matching funds. TWA agreed to a 15-year lease, and Oscar Love's bank took an option on land and advanced money to the city. Tingley turned the first shovel before thousands of citizens in 1937. The municipal airport was completed in 1939.

That year World War II broke out in Europe.

World War II

In 1939 Albuquerque was designated as an Airway Station on the army's southern route, using leased facilities from TWA. The city wanted WPA funding for a permanent

building but lacked matching money. Chamber directors borrowed from two local banks and advanced the money to the city.

In 1940 when the prospect of a base was shaping up, the chamber in August directed Oscar Love to secure an option on land for the chamber. Boosters in Tucson, which was also trying to get a base, had already acquired 16,000 acres adjacent to their airport and deeded them to the army. Six weeks later Maj. Eugene L. Eubank arrived to evaluate the airport site. In early October the army decided to move the 19th Bombardment Group to Albuquerque. In November a military delegation arrived to begin planning $1.25 million in base buildings for some 2,400 enlisted men and officers.

Construction of Albuquerque Army Air Base began in January 1941, with 2,000 men working around the clock to double the length of one runway and build facilities.

The first base commander, Colonel Frank D. Hackett, arrived in March and on April 1, the first military aircraft, a lone B-18 bomber piloted by Lt. Sid Young, landed on the north-south runway. With the assignment of five pilots to the aircraft, the day marked the official opening of Albuquerque Army Air Base.

The summer of 1941 saw the arrival of the first troop train, loaded with 500 base support personnel, as well as arrival of the 19th Bombardment Group, under the command of Eubank, by then a lieutenant colonel. Activity at the base really began to boom with the arrival of 2,195 pilots, bombardiers, and navigator trainees for the new B-17 "Flying Fortress." The 19th Bombardment Group moved out soon after for duty in the Philippines and South Pacific; many crew members would be decorated for bravery.

In 1942, soon after the Pearl Harbor attack in 1941, the base was named Kirtland Army Air Field, after Col. Roy C. Kirtland, an aviation pioneer who was one of the first students to fly with the Wright Brothers and first commander of Langley Field. Appropriately, the first class of bombardiers began with the establishment of the Army's first wartime advanced flying school.

By then, Kirtland's aircraft inventory had grown to 50 AT-11s and 28 B-18s.

Also in 1942, Sandia Base was established nearby as Albuquerque Air Depot Training Station for aircraft maintenance personnel. In 1944 the Manhattan Engineering District created the Armed Forces Special Weapons Project at Sandia Base to coordinate military special weapons activity.

During the war, Kirtland trained entire flight crews for the B-17 and B-24 bombers. The base's three schools -- advanced flying, bombardier training and the multi-engine school -- operated at full capacity. From 1941 through 1945 Kirtland turned out 5,719 bombardiers and 1,750 B-24 pilots. In February 1945, Kirtland Field was also engaged in training combat crews for the B-29 Superfortress, eventually used to drop the first atomic bombs on Hiroshima and Nagasaki. The base continued training B-29 pilots until the end of the war.

When the war ended in 1945, Kirtland went on a standby basis.

After the War

Nuclear weapons began arriving at neighboring Sandia Base from Los Alamos for practice and loading on modified B-29 bombers. In 1946 the Armed Forces Special Weapons Command began building Site Able for weapons storage in the Manzano foothills and Site Baker near Kileen, Texas.

In February 1946, Kirtland was placed under the Air Materiel Command, and its flight training activities ceased. Its new job involved flight test activities for the Manhattan Engineering District, the wartime organization that produced the atomic bomb. The base's new role was to develop proper aircraft modifications for weapons delivery and to determine ballistic characteristics for the weapons of the future.

Kirtland's role in testing and evaluating these special weapons increased in 1947, as the U.S. Army Air Corps became the U.S. Air Force. At that time, Kirtland Army Air Field, with a population of 972 military and civilian personnel, became Kirtland Air Force Base.

New aircraft had to be modified to use nuclear weapons. The first B-36, then the world's largest bomber, arrived in 1948; the first B-47 followed soon after.

Most of the weapon proving was conducted on a 46,000-acre tract in the Manzano Mountains, at the base's southern end and included Forest Service lands withdrawn for testing purposes. This involved setting up artillery emplacements, building observation stations, preparing fragmentation areas, and erecting two 248-foot oak towers near the present day Starfire Optical Range. Kirtland was suitable for these activities because of its proximity to Los Alamos Laboratory and to Sandia Base.

In December 1949 Kirtland became headquarters for the newly created Special Weapons Command. The nucleus of this organization was composed of the pioneering Air Force agencies that had located here to determine future employment of special weapons. The command became the Air Force Special Weapons Center on April 1, 1952, and was a unit of the Air Research and Development Command.

That year Site Able was renamed Manzano Base and came under operational control of the Air Force.

There were now three installations: Kirtland, Sandia Base and Manzano Base.

Work would continue on Manzano Base until 1961 and was so secret that servicemen who worked there couldn't even tell their wives what they did. Manzano consisted of 122 igloos, or magazines – 81 earth-covered bunkers and 41 tunnels in mountainsides – and four plants scattered through 2,880 acres in the Manzano foothills.

The Special Weapons Center assumed management of Air Force Systems Command's test and evaluation facilities at Holloman Air Force Base near Alamogordo during the summer of 1970. A year later, on July 1, 1971, Kirtland, Manzano and Sandia bases were merged under one command.

The Air Force operated the weapons storage depot in the Manzanos until it completed a new underground storage complex in 1990. It's the most modern facility of its kind in the Department of Defense and one of just two nuclear weapons general depots in the United States. The old Manzano storage area, some of which can be seen from the Four Hills neighborhood, was deactivated in 1992.

In 1993 the 377th Air Base Wing became the base's host organization – essentially the landlord for more than 76 government and 384 private tenant organizations with operations at Kirtland. The 377th also manages the base's weapons storage facility.

Kirtland Today

Kirtland Air Force Base is surprising for its size and complexity.

At 80 square miles and more than 23,000 employees, Kirtland is one of the largest installations of the U.S. Air Force. It's also one of the most complex, with three scientific laboratories, two flying organizations, a weapons depot, two headquarters (Air Force safety and systems testing), an astronomical observatory, and the Department of Energy's biggest field office. The base's economic impact on Albuquerque totals $4 billion.

Kirtland's mass and diversity probably spared it in the most recent round of base closures.

Kirtland has two major flying outfits:

- The 58th Special Operations Wing trains 2,000 students a year from all over the world in special operations and combat rescue, helps civilian authorities with local rescues, and supplies people and airlifts during crises.
- The New Mexico Air National Guard 150th Fighter Wing flies and maintains F-16 Fighting Falcon jet fighters. Members of the 150th have seen service in Vietnam, Bosnia, Kuwait, Kosovo, and Turkey. In 2002 they flew air cover over New York City.

Kirtland's best known tenant is Sandia National Laboratories, a DOE facility with some 8,000 employees, but the base is home to two other labs as well – two directorates of Air Force Research Laboratory. One operates Starfire Optical Range, an astronomical observatory in the Manzano foothills.

Air Force Safety Center

Ever since World War I, the government has lost many more planes in training than in combat. That's because a combat pilot is very focused. Noncombat flying lends itself to errors, mechanical failures and what Air Force pilots call "hot-dogging," the equivalent of a teenager in a fast car.

Losses led the Army to start a safety organization in 1925, which evolved over the years to the Air Force Safety Center. This agency, which serves the entire Air Force, is headquartered at Kirtland. Its commander is also Air Force Chief of Safety, reporting directly to the Air Force Chief of Staff. The Air Force consolidated all its safety functions here in 1996.

The Air Force Safety Center investigates Air Force crashes and mishaps, analyzes evidence and interviews people to figure out what happened. It then makes recommendations that may involve improved training and maintenance, changes in policies or parts modifications. The center also concerns itself with ground transportation, weapons, space systems, and nuclear programs.

Much of the Safety Center's efforts are preventive. It assesses risks and hazards and tries to spot trends, then recommends changes and monitors to see how well they work. It also devises mishap prevention and safety programs and oversees safety standards and certification.

The Safety Center has a crash lab on 29 acres of desert scrub, where multiple crash sites have been recreated piece by piece from the original wreckage. The agency uses this plot to train accident investigators and first responders.

The wreckage assembled here is a sampling of what can go wrong. A helicopter lands in a grassy field saturated with water. A strong crosswind tips the craft, and the rotor touches the ground. A training plane crashes when a bolt fails in a control device. A jet is lost because a pilot, unfamiliar with the craft, pushes it beyond its limits.

The agency also studies birds.

One bird can wreak havoc with a multi-ton flying machine after being sucked into engines or smashing through windscreens. (It's a little hard on the bird, too.) And the Air Force has 2,600 strikes a year. One specialist investigates Air Force plane crashes caused by birds. The Bird Aircraft Strike Hazard (BASH) program tries to keep birds and aircraft apart.

The program investigates crashes all over the world, develops programs to reduce bird strikes, and maintains the nation's largest bird-strike database, used for detailed analysis during aircraft component design and environmental assessments. To do this, the Air Force must identify bird remains and know their size, behavior and habitat.

The Air Force and the Smithsonian Institution might seem unlikely partners, but the Smithsonian identifies bird species from remains sent from Air Force personnel. Their instructions: "Collect all feather, fuzz, beak, bone, talons, etc. that are found in the engine, on the aircraft, or on the airfield. Never cut feathers from the bird's body because the fluffy barbs at the very base of the feather are often important in making identifications."

The Safety Center investigates these accidents and others in order to improve Air Force safety practices and training and prevent future mishaps.

Air Force Research Laboratory

Ever wondered who, officially, cares that an asteroid might be headed our way? Locally, it's Air Force Research Laboratory, which has two of its ten directorates at Kirtland: Space Vehicles and Directed Energy.

Space Vehicles is the Air Force Center of Excellence for space research and development. One of its missions is to better understand space and its effects on military systems and operations. Another mission is to improve the performance of space technology (primarily satellites and rockets) while reducing costs by designing standards and prototype hardware and software. In other words, the directorate develops technologies for smaller, lighter, cheaper spacecraft. An example is use of new materials like carbon-fiber composites to reduce the weight of satellites.

The directorate also develops technology for protection from natural and man-made threats arriving from space and conducts space-based surveillance.

The other directorate, Directed Energy, is a Department of Defense Center of Excellence for the development of high-power microwave technologies and lasers, including the Airborne Laser System Program. Mounted on a Boeing 747, the system is intended to destroy ballistic missiles soon after they're launched.

Starfire Optical Range

Who's watching orbiting space junk? Again, Air Force Research Laboratory and its Starfire Optical Range, an astronomical observatory in the Manzano foothills.

The facility keeps an eye on old, dead satellites. Every day scientists get a list of 8,000 objects. The space command tracks 1,000 active payloads and 20,000 objects.

Starfire's 3.5-meter telescope is one of the largest in the world capable of tracking satellites. It also has a 1.5-meter telescope and a 1-meter beam director. Together they can actually shine a beam of light on a satellite and follow it while viewing its image.

In 1983 Starfire caught the world's attention by becoming the first organization to solve the problem of removing the twinkle from stars. Ever since Galileo invented the telescope, astronomers have been hampered by blurred images, the result of atmospheric turbulence.

Starfire scientists devised a way to measure the atmospheric distortions and then distort a mirror in the opposite direction. It sounds simple enough but because the wave front of light changes thousands of times a second, the lenses of the mirror must change as quickly. The Starfire mirror can change 1,500 to 2,500 times a second. When the technology was declassified in 1991 astronomers around the world were ecstatic. Today every large astronomical installation in the world has this technology. For its expertise, Starfire was designated as a federal Center of Excellence.

This really is rocket science.

Resources:

Kirtland Air Force Base: http://www.kirtland.af.mil/history/

Air Force Safety Center: http://afsafety.af.mil/

Air Force Research Laboratory: http://www.afrl.af.mil/

Center for Military History: http://www.au.af.mil/au/awc/awcgate/awc-hist.htm

Biebel, Charles D. Making the Most of It: Public Works in Albuquerque during the Great Depression 1929-1942

Lesson Plan: Kirtland Air Force Base

Subject: History, Geography, Language Arts

Objective: Students will develop a basic understanding of the mission of Kirtland Air Force Base (KAFB), how KAFB has influenced the growth of Albuquerque, and the connection of military service to many Albuquerque families.

Introduction:
Kirtland Air Force Base is a major factor in the economy of Albuquerque. Its presence brought thousands of families to Albuquerque after World War II and contributed to the city's growth. The role of the military should be more familiar to students because of the nation's military involvement overseas. And many students might have family members who are active military personnel or have served in the military.

New Mexico Standards: Social Studies
Strand 1: History
Content Standard: 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.
Benchmark I-A: Explore and explain how people and events have influenced the development of New Mexico up to the present day.
Performance Standard 7.4: Describe how important individuals, groups, and events affected the development of New Mexico from the 16th century to the present time (NM-1A, 4).
Performance Standard 7.5: 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).
Performance Standard 7.6: Explain the impact of New Mexico on the development of the American West up to the present, to include:

- Availability of land (e.g., individuals, governments, railroads, tribal)
- Government land grants or treaties
- Transportation (e.g., wagons, railroads, automobile)
- Identification and use of natural and human resources
- Population growth and economic patterns.

New Mexico Standards:
Strand II: Geography
Content Standard: Students will understand how physical, natural, and cultural processes influence where people live, the ways in which people live, and how societies interact with one another and their environments.
Benchmark II-A: Analyze and evaluate the characteristics and purposes of geographic tools, knowledge, skills and perspectives and apply them to explain the past, present, and future in terms of patterns, events, and issues.
Performance Standard 7.1: Describe ways that mental maps reflect attitudes about places.

Performance Standard 7.2: Describe factors affecting location of human activities, including land use patterns in urban, suburban, and rural areas.
Benchmark II-E: Students will understand how economic, political, cultural, and social processes interact to shape patterns of human populations, and their interdependence, cooperation, and conflict.
Performance Standard 7.2: Describe factors affecting location of human activities, including land-use patterns in urban, suburban and rural areas.

New Mexico Standards: Language Arts
Strand III: Expressive Language, Writing
Content Standard: The student writes effectively for different audiences and purposes using appropriate writing strategies and conventions.
Benchmark: The student develops and demonstrates proficiency and competence in writing strategies and conventions across content areas to describe, narrate, express, explain, persuade, and analyze critically for a variety of purposes and audiences.
Performance Standard 7.1: Demonstrates increasing proficiency in using the writing process to create a final product.
Performance Standard 7.4: Demonstrates increasing proficiency with writing conventions (grammar, spelling capitalization, punctuation).
Performance Standard 7.5: Demonstrates increasing proficiency in applying appropriate types of writing for the intended purpose and audience: develops understanding and skill during the process of doing background research for essays and presentations.
Performance Standard 7.6: Narrates an account that creates a coherent organizing structure appropriate to purpose, audience, and context which orients and engages the reader.

Strand V: Receptive Language Listening and Viewing
Content Standard: The student demonstrates, analyzes, evaluates, and reflects upon the skills and processes used to communicate by listening to and viewing a variety of auditory and visual works.
Benchmark: The student comprehends, analyzes and interprets formal and informal auditory and visual works, including multimedia presentations.
Performance Standard 7.1: Organizes information that is heard or viewed.

Materials

- Butcher paper for KWL chart
- Computer with Internet access
- Paper and pencils or pens

Background and Set Up

The teacher will set up a KWL chart to assess what students know and want to know about KAFB. Later the L section will be filled in to reflect what has been learned. A KWL chart is a three-column chart that can be drawn out on a sheet of butcher paper. The teacher divides the chart into the three columns labeled “Know/Want to

Know/Learned. This is an opportunity for teachers to assess previous knowledge or experience with the topic and for students to generate interest in the topic.

The teacher will lecture or lead lecture and discussion for 10 to 30 minutes to introduce the impact that KAFB had on the growth and development of Albuquerque. It will include specific dates and time line about KAFB's history. Use an Albuquerque map, which shows where KAFB is located in relation to the rest of Albuquerque.

Discussion should include:

- What factors led to KAFB being located where it is?
- What activities took place at KAFB during World War II?
- What were the important changes after World War II?
- Who is KAFB named for?
- What activities go on at Kirtland today?

Activity 1: Write a letter about KAFB to an elected official.

The student will compose a one-page letter to an Albuquerque or New Mexico elected official, such as Gov. Bill Richardson, Sen. Pete Domenici, Sen. Jeff Bingaman, or Mayor Martin Chavez. The student will include at least three facts about KAFB history and another three items of information about themselves. The students will describe at least three reasons why KAFB is important to Albuquerque's economy. The teacher may choose to let the students read their letters out loud to the class. The letters will be mailed as a packet to the different elected officials. Be prepared to get a response!

Activity 2: Interview someone who served in the military and write an essay.

The class will create a list of 7 to 10 basic questions, which all students will ask of the persons they will interview. The students should be able to develop the question list but if they have difficulties, the teacher may focus them on questions dealing with who, what, when, where, and why. There should be questions like:

- What branch of the military did you serve in?
- Describe your basic training.
- What was your job and rank?
- How long did you serve?
- What places did you live in and what were the names of the military bases?

The interview would conclude with a question like this: "Describe a memorable or interesting experience." Students will complete a minimum one-page essay taken from their notes. Students should include at least one positive thing that they have learned and how that has changed their understanding of the military.

Interview Preparation: Students will need several weeks to prepare for their interview. They will need time to locate the person and set up a meeting time. Hopefully students will find neighbors, family members, or family friends to interview. Have them set a time and place to meet with their interview subject.

While interviewing the person, make sure to:

- Be on time
- Be prepared. Have questions ready and your pencil and your notebook out.

- Give the interviewee plenty of time to answer the questions. You need to be patient; sometimes answers can take a long time.
- Never argue or correct the interviewee.
- Be polite. Say "please" and "thank you" and always address them formally using Mr., Mrs., Miss, or Ms.
- If the person wanders from the topic, try to get them to refocus by asking one of your questions.
- Be sure to thank your subject when you are finished. It is important to remember that without their cooperation you couldn't complete this assignment.

A timeline for completion of each component of the interview process might be helpful. For example;

- Interviewee contacted
- Interviewee answer received
- Interview date
- Interview questions completed
- Interview completed
- Interviewer notes completed
- End product completed
- Thank you note completed

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Extension Activities:

- Take a field trip to the New Mexico Veterans Memorial Park, 1100 Louisiana SE, 256-2042, near Gibson & Louisiana. Van Buren Middle School is just 2 blocks north. The Memorial Park has an outdoor area of public art that interprets the war experience of the military veteran. It also has a small indoor museum.
- Visit the memorial to veterans of the Bataan Death March at Bataan Park at Carlisle and Lomas.
- Invite someone from KAFB to come speak to your class. A request for a speaker can be made through the KAFB website at www.kirtland.af.mil.
- Plan a "military appreciation" assembly at your school. This could be related to learning about Veterans Day.

"Service in the National Interest"
Sandia Laboratories and High Tech in Albuquerque

Sandia National Laboratories has been a part of Albuquerque for over half a century. Its roots are in engineering design for weapons components, but today the labs do a variety of security-related research and development. Sandia has earned a national reputation in computer science, sensors, space science and materials. It's also a major player in Homeland Security.

From the Beginning

Los Alamos Laboratory was born of America's atomic bomb development effort, the Manhattan Project, during World War II. In 1945 the lab moved its Z Division to Albuquerque's Sandia Base, an aircraft maintenance training site established in 1942 next to Kirtland Army Air Field. Lab managers wanted a site for Z Division that was near an airfield and they wanted to work closely with the military. Z Division then provided engineering design, production, assembly and field testing of non-nuclear components of nuclear weapons. The concrete slabs for the first buildings were poured over the holidays in 1945.

Three years later the division was renamed Sandia Laboratory.

In 1949 President Harry Truman asked AT&T to take over management of Sandia Laboratory, saying the company had "an opportunity to render an exceptional service in the national interest." AT&T began managing the lab and its 1,742 employees on November 1, 1949 and continued for 44 years.

Over the years lab personnel played a role in the Cold War. They were on hand in 1952 when the first H-bomb was detonated at Enewetak in the South Pacific. And when the Cold War ended, they helped former enemies in the Soviet Union dismantle their weapons complex.

In 1956 Sandia opened new facilities in Livermore, Calif. to support the nuclear weapons work of the new Lawrence Livermore Laboratory. Sandia became a national laboratory in 1979.

Sandians and Albuquerque

In the 1950s Albuquerque's eastern and northern limits ended at San Pedro and Lomas. Beyond was barren mesa. Both Kirtland and Sandia were isolated from the city. But they were growing. The war had not only created a new defense complex outside the city – it inflated the city's population. Sandia, driven by Cold War missions, then employed more than 4,000 people. It had become the city's largest single employer.

This workforce for a time lived in base housing, but they began buying homes in the rapidly growing new subdivisions of the Northeast Heights. Residential construction blossomed on the scrubland north of Sandia.

The city didn't have enough wells to serve this new population, although the supplies of water were ample. The existing City Commissions, controlled by the

influential former Gov. Clyde Tingley, was generally unresponsive to the utility needs of a growing city.

A group of Sandia employees decided to involve themselves in city politics. In 1952 a group of Sandians, led by Dick Bice and Ray Powell, formed the Citizens Committee and ran a slate of candidates (including Bice) for the City Commission. The reform group prevailed and took control from the once powerful Tingley. City Commissioner Bice devised a strategy to fund the expansion of the water system.

From 1954 to 1958 the city added 190 miles of pipe to its water system, and water shortages and rationing were history. The city also paved 157 miles of streets, and traffic congestion eased. The city staff increased dramatically. To pay for these improvements, new taxes were levied; the most significant was a one-cent sales tax.

After Dick Bice left the City Commission in 1962, Harry Kinney, another former Sandian, served two terms as mayor (1973-77 and 1981-1985). Kinney asked Bice to chair a Museum Advisory Committee because he knew of Bice's strong interest in creating a city history museum. The result was the Albuquerque Museum, which opened in the old airport terminal in 1967. In 1979 the museum moved to its present location in Old Town. Bice also was instrumental in securing funding for the National History Museum, which opened in 1986.

Sandia Today

Since 1993 Lockheed Martin Corp. has managed the lab. The lab now employs some 8,500 people. Its direct and indirect economic impact in 2004 was $6.6 billion.

Sandia's mission over the years has been to develop technology that supports national security. Currently, its five areas of concentration are:

- Making sure the nation's stockpile of nuclear weapons is safe, secure and reliable;
- Reducing the proliferation of weapons of mass destruction, the potential for nuclear accidents and the threat of damage to the environment;
- Addressing new threats to national security;
- Improving the security and availability of energy sources;
- Protecting against terrorism.

In the course of upholding its mission, Sandia has for years been in the forefront of computer science, materials science and space exploration.

Sandia has been involved in virtually every aspect of computer hardware and software development. It's probably best known in the computer world for massively parallel computing – linking large numbers of desktop computers and getting them to work together. In 1988, Sandia computer scientists linked 1,024 computers to address a complex problem and boosted problem-solving speed a thousand-fold.

As power and graphics capabilities increased, the horizon of problem solving continued to expand. Sandia scientists gained the tools to design pharmaceutical drugs, model global climate changes and simulate the movement of toxic waste through the ground. They could detect 50,000 incoming projectiles and discern missiles from decoys.

Sandia and Cray Inc. are now developing a new supercomputer that will be the fastest in the world. Called Red Storm, the $90 million machine will be capable of 41.5 trillion operations per second (teraflops). Sandia's ASCI Red computer was previously the world's fastest.

A second area of strength is in materials science -- a search for the right stuff to meet demands of space technology, industry and medicine. Airplanes and cars, for example, could be made from lighter, stronger materials for greater safety and fuel efficiency. Demand continues for new materials for semiconductors that make computers smaller, faster and more powerful.

In recent years, Sandia has distinguished itself in bio-terrorism defense and in microsystems.

Sandia was deeply involved in the biosciences before the Sept. 11 tragedy and is now a leader a leader in defense against bioterrorism. It has developed methods to process, manipulate, assemble, detect and utilize biological molecules. The lab's decontamination foam, which neutralizes chemical and biological agents in minutes with no harm to people, was used during the anthrax scare in 2001.

Sandia is also a microsystems and nanotech pioneer. Microsystems are devices smaller than a human hair and larger than a few human red blood cells that can think, act, sense and communicate. They have such widespread applications in transportation, telecommunications and medicine that the tiny machines are considered the biggest thing since the semiconductor.

High Tech and Albuquerque

Albuquerque is home to a mature and growing technology sector. Many of the companies are start-ups based on technology transfer from Sandia and UNM. They include:

- Aerospace and Aviation. Albuquerque has both a decades-old aerospace industry and a growing new aviation industry. The aerospace segment includes more than 100 companies with roots in the earliest operations of Kirtland Air Force Base and the nation's space program. Aviation is an exciting new segment anchored by Eclipse Aviation, which plans to make small jets.
- Biotechnology and Biomedicine. This segment produces everything from instruments and surgical supplies to painless glucose monitors for diabetics. They also develop medical equipment, software and diagnostic tests.
- Electronics. Our electronics segment of about 50 companies is anchored by Intel. Activities include manufacture of computer chips, silicon wafers and electronic components and equipment; development and production of semiconductor measurement tools and training equipment; and electronics fabrication and assembly. Intel, which began operations here with 50 employees in 1980, now has 5,000 employees, and the operation is the largest of its kind in the world.
- Information Technology and Software. Albuquerque's vibrant IT sector is one of the biggest at more than 300 companies. It includes computers, software, telecommunications products and service, the Internet and online services.
- Microsystems. About 30 local companies are either microsystems companies or rely on micro- or nano-technologies.
- Optics and Photonics. Albuquerque's estimated 160 optics companies design, develop and manufacture optics systems and components for both the public and private sector. Activities include laser, sensor, component and instrument manufacturing; production of entire systems; design; and supply. Optics is, simply, the use of light. Photonics is the science of generating, manipulating,

transporting, detecting and using light information energy. The basic unit is the photon.

High Tech Training and Schools

Albuquerque has a pioneering program, started in 2001, to educate students in optics and photonics from middle school through graduate degrees. The Photonics Academy at West Mesa High School teaches high-tech skills sufficient to prepare students for jobs or to continue studies at TVI or UNM.

The Academy of Advanced Technology is a four-year program at Albuquerque High School intended to create career pathways to Albuquerque TVI, UNM and jobs in information technology.

The Math, Science & Technology Partnership is a collaboration between schools, business and government agencies, which started in 2000 to improve K-12 math and science teaching and learning for both APS students and teachers through the use of technology. The Sandia High School Cluster was first, joined a year later by the West Mesa High School Cluster.

Resources:

Sandia National Laboratories: http://www.sandia.gov/about/history/

Lesson Plan: Sandia National Laboratories

The Tricentennial Education Task Force does not have a lesson plan for this subject presently. We encourage teachers to develop their own and to watch albuquerque300.org for a lesson plan to be posted in the future.

This background can also be used in conjunction with Kirtland Air Force Base.

Cool Mornings, Hot Air
Ballooning in Albuquerque

October is a time of bright sun, cool mornings, and big, bright-colored, raindrop-shaped globes hovering over the Rio Grande Valley. As we celebrate Albuquerque's Tricentennial in 2006, the Albuquerque International Balloon Fiesta, the biggest event of its kind in the world, will be 34 years old. Albuquerque has earned the title, "Hot Air Balloon Capital of the World."

Early Ballooning

The Montgolfier brothers, Joseph and Etienne, experimented with a taffeta bag lined with paper, closed with 2,000 buttons, and filled with gas made from sulfuric acid and iron filings. After many attempts they launched a balloon without passengers on June 4, 1783 in the town square of Annonay, south of Lyon, France. The hot air in this balloon was produced by burning straw and wool, and it smelled. The balloon traveled 1.25 miles.

The first balloon "pilots" were a sheep, a rooster and a duck. They flew in a Montgolfier hot-air balloon lifting off from the gardens of the Palace of Versailles in France on Sept. 19, 1783. Pilatre de Rozier and the Marquis d'Arlandes made the first manned flight in another Montgolfier balloon on November 21, 1783.

Early Balloons and Albuquerque

Ballooning in Albuquerque goes back to 1882. Just two years after the Atchison, Topeka & Santa Fe Railroad arrived in Albuquerque, "Professor" Park Van Tassel, owner of the Elite Saloon, had bought a balloon for $850. The balloon of black, rubberized cloth was 38 feet in diameter with a volume of 30,000 cubic feet. The price included a grapnel hook, anchor, a basket and a barometer.

The first ascension in Albuquerque was planned for the Fourth of July. All day long on July 3, Albuquerque Gas Works manufactured the Professor's fuel, which was coal gas (a mixture of hydrogen, methane and carbon dioxide) by burning coal in a low-oxygen environment.

Inflation of the balloon began at 5 p.m. on July 3. The next morning a crowd gathered on Second Street between Railroad (Central) and Gold avenues. They waited and waited. Finally, they went on to other events at the Territorial Fairgrounds near Old Town.

Right after 5 p.m., word went out that the balloon would launch at 6:15 p.m. People boarded mule-drawn street cars and made their way back to Second Street. The balloon was only two-thirds full, but it was good enough. The Professor climbed aboard, untied bags of sand from the basket, and the "City of Albuquerque" rose above rooftops and floated slowly to the south. Then it appeared to stop its lateral movement and shot straight up among the clouds where another current of air pushed the balloon in a northwesterly direction.

It was the phenomenon that would become known to modern balloonists as the Albuquerque Box, in which air currents move one direction at a lower elevation and another direction at a higher elevation. The balloon rose high in the air until it was no bigger than a derby hat and soon reached a point over Old Town where it began to descend. The Professor landed in a cornfield at the rear of the Fairgrounds. A number of men on horseback rushed to help the aeronaut and then emptied the balloon and loaded up the airship. They returned to the Elite Saloon for a lively party. The first ballooning adventure over Albuquerque was a great success.

Plans were made for Van Tassel to fly again during the second annual New Mexico Territorial Fair, scheduled to begin Sept. 18, 1882. On Sept. 21, 100 men towed the balloon towards the fairgrounds, but it got away from them, rose quickly about a mile high and burst directly over the Fairgrounds. That was the end of Van Tassel's balloon.

In 1889, again during the New Mexico Territorial Fair, Professor Thomas Scott Baldwin made a 3,000-foot ascension following two failed attempts the previous days. On Sept. 18, 1890, a Professor Elmo only rose 200 feet above Albuquerque and escaped serious injury when it fell to the ground.

Ten years later, again at the fair, a Professor Zeno became tangled in the ropes of his balloon, and the wind blew his parachute, which had opened, and him into the air.

The next balloon pilot's luck wasn't any better. On the last day of the 1907 fair, Joseph Blondin flew solo in his poorly filled balloon. The day before, a company of 25 cavalrymen tried to fill the bag with hydrogen made from iron filings and sulfuric acid in a wooden vat. When that wasn't satisfactory, the soldiers walked the partially filled balloon two miles through the South Valley to the city gas plant in order to continue filling it with coal gas.

At 10 a.m. the next day the bag appeared full, and the men walked the balloon back to the fairgrounds. After it lifted off, Aeronaut Blondin flew 18 miles up the Rio Grande Valley. Near the village of Alameda, irate farmers shot at him eight times but missed. The balloon landed safely near Corrales.

Afterward Blondin sold his balloon to Roy Stamm, a local fruit wholesaler who was secretary of the 1907 Fair Association, and went back to prospecting.

At the 1909 fair, Stamm and Blondin, with a 10-man crew, set to work with a wooden tank generator to produce hydrogen, which had at one point sprayed Stamm with acid. After 30 hours of inflation, the tethered balloon rose, where it could be seen by President Taft from his special train. The first passengers were the ground crew of Fort Wingate soldiers, followed by hundreds of men, women and children who paid $1 to ride – a lot of money in those days – for 10 minutes on a 500-foot tether.

The two couldn't provide a real balloon launch during the fair, but afterward, they rose into the air from a vacant lot at Sixth and Railroad (Central). A large, cheering crowd, including Mayor Felix Lester, watched as the basket cleared the electric wire of the trolley. It rose a mile above Albuquerque, floated over the mountains and was lost from view.

On the other side, the warm air of Estancia Valley caused the balloon to rise to 13,000 feet. As the aeronauts passed over the village of Estancia, they were shot at again. The balloon appeared to be headed for Vaughn but soon dropped and landed at the base of Pedernal Hills in Torrance County. They returned by wagon to Estancia and rode the train back to Albuquerque, bringing the balloon and gondola with them.

A two-hour flight had turned into a three-day return journey.

In the late 1950s a U.S. government research program built a hot-air balloon of man-made fibers and filled it with air heated by a propane flame. The modern hot air balloon was born.

Albuquerque Balloon Fiesta

In summer 1971 Sid and Bill Cutter, owners of Cutter Flying Service, bought a hot–air balloon from Raven Industries. Sid first flew it for their mother's birthday party being celebrated in the company's hangar at Albuquerque International Airport. The Cutters named the balloon "Betsy Ross." It was the first hot-air balloon flight over Albuquerque. Maxie Anderson later acquired the balloon.

In November Sid, Maxie and seven of their friends founded the local balloon club, Albuquerque Aerostat Ascension Association, which they nick-named the Quad A. They signed up members to learn to fly. The Quad A bought a club balloon they named "Roadrunner." It was first flown in early January 1972.

Sid Cutter began organizing the first hot-air balloon rally in New Mexico. The sponsor was KOB Radio, which wanted to celebrate its 50th anniversary with an unusual event. The largest number of balloons ever assembled had been 19 in England, and organizers intended to surpass that number.

They signed up 21 balloonists from Arizona, California, Iowa, Michigan, Minnesota, Nevada and Texas to join the Albuquerque balloonists in April of 1972. But they didn't arrive in time, so 13 balloons inflated on a chilly Saturday morning on the dirt parking lot west of Coronado Shopping Center. KOB announcer Tom Rutherford had stirred up excitement, and 20,000 people came to watch. Albuquerqueans were thrilled watching the brightly colored hot-air balloons, most trailing advertising banners, drifted away from the shopping center.

In this crowd was Don Kersten, an official of the Balloon Federation of America. The Federation Aeronautique Internationale had directed him to choose a site for the first world hot-air ballooning championship. He was so impressed with Albuquerque that he encouraged the city to submit a bid to host the International Festival. Sid Cutter and Tom Rutherford organized World Balloon Championships Inc. and submitted the only bid to be a host city. They learned later that Albuquerque was the only city Kersten approached.

In February 1973 Albuquerque hosted its second Balloon Fiesta in conjunction with the first World Hot Air Balloon Championship at the State Fairgrounds, with 138 balloons flying from 13 countries.

Balloon fever had hit Albuquerque. Cars came to a stop on I-25 as drivers gawked at balloons, and traffic elsewhere was so slow that people were late to work. At the sound of the familiar whoosh of gas burners, people emptied out of buildings and children ran from classrooms to look skyward.

Often a school principal would find both students and teachers still standing outside after the first bell rang because a balloon had landed on the playground. Pilots would sometimes take a child or two up while chase crews held tethers. Later on, teachers took ballooning workshops, and children built and launched small hot air, paper balloons.

An Institution

After several years, Sid Cutter, who had organized and provided financial support to the 1972, 1973 and 1974 Balloon Fiestas, could no longer sustain the financial loss from these events.

Mayor Harry Kinney and many business people knew the fiesta would be good for business, so Kinney appointed the first Balloon Fiesta Committee and named Betty B. Perkins chair.

This committee was established as a corporation, registered with the state on February 9, 1976 and the first bylaws were adopted on February 27, 1976 by the seven members. The original incorporators were Aubrey Cookman, Jim Baca (the city's public relations professional, acting for the mayor) and Betty Perkins.

In March 1976 the Albuquerque International Balloon Fiesta Inc. entered into an agreement with the World Balloon Championships and Epstein Enterprises for the purpose of acting as sales agents to obtain sponsorships.

By 1978 the fiesta had become the world's largest ballooning event, with 273 entries. Gas balloons became part of the Balloon Fiesta in 1981. In 1993 the Balloon Fiesta hosted the 37th annual Coupe Aéronautique Gordon Bennett (also known as the Gordon Bennett Cup, the world's oldest gas balloon race. In 1994, the fiesta hosted the 8th World Gas Balloon Championship and in 1995, it launched America's Challenge Gas Balloon Race, which broke distance records, dating back to 1912.

Ballooning Greats

Albuquerque has produced some ballooning greats.

In August 1978 Albuquerque balloonists Maxie Anderson, Ben Abruzzo and Larry Newman were the first to make a trans-Atlantic balloon crossing in a helium balloon called the Double Eagle II. They lifted off from Presque Isle, Maine, and flew 3,107.61 miles in 137 hours, 5 minutes and 30 seconds, landing in Misere, France.

During an attempt a year earlier Anderson and Abruzzo had to ditch their first craft, the Double Eagle, during a storm near Iceland.

In 1981 Abruzzo, Newman, and Ron Clark of Albuquerque and Rocky Aoki, of New York and Tokyo, became the first to cross the Pacific Ocean in a helium balloon. They departed from Nagashima, Japan and flew the Double Eagle V 5,768 miles, landing near Covelo, California.

Anderson died in a balloon accident in Europe in 1983. Two years later Abruzzo died in an airplane crash. To honor their memories, the city will open the Anderson-Abruzzo Albuquerque International Balloon Museum in fall 2005.

Carol Rymer Davis in 1980 established a new world record in the AX-5 category with an ascension of 31,791 feet in a hot air balloon near Albuquerque. She also set records for distance and duration in later flights.

Balloon Q&A

How do hot-air balloons work?

Hot-air balloons operate on the principle of gravity and the fact that hot air weighs less than cold air. This is how the Montgolfier brothers discovered the concept of a hot

air balloon in 1783. They noticed the light ash from burning paper in a fireplace rose up the chimney. Then they filled paper balloons with hot air from a fire and noticed they too rose.

This is the same principle used in today's modern hot-air balloon. As air inside the balloon is heated, it rises. As the air inside the balloon cools, it descends. Pilots add heat by turning on the burners, usually in a series of a few short blasts, and the balloon rises. They can allow the balloon to cool naturally to descend or open a vent to release hot air. For a controlled descent, they again use a series of short blasts to control the rate of descent.

What is the Albuquerque box and how does it work?

The Albuquerque Box is a phenomenon that makes our city the ideal place for ballooning. During the fall, when the air is stable and no strong weather systems are affecting the area, the air near the ground cools at night. Because this cooler air is more dense, it flows downhill, like a river, during the early morning hours and pools at lower elevations, especially the Rio Grande valley. This layer of air is shallow, maybe several hundred feet deep.

In October, we often have a light north wind, less than 10 mph, in the morning. The stable river of cool air occurs below a temperature inversion which separates it from warmer, less dense air above the inversion. The wind direction in the air mass above the shallow inversion can be quite different than that below the inversion.

In an ideal box pattern, the wind blows in exactly the opposite direction, with a north wind at the surface and a south wind above the surface. This allows a skillful pilot to bring a balloon back to near the point of takeoff by changing altitudes to ride wind currents in different directions. So, the box is a straight run south from the balloon field, a climb of about 1,000 feet to a north-flowing current to fly back across the field, a descent back into the shallow pool of south-flowing air, and with a little bit of luck, possibly back to the very spot from which the balloon was launched. In effect, the balloon's flight path has traced out a box – the Albuquerque Box.

How do you learn to fly a balloon?

There are two levels of balloon pilot ratings – private pilot and commercial pilot. The private pilot must have at least 10 hours of flight time in free balloons, which must include six flights under the supervision of an instructor. The private pilot must pass a written test, oral test and a flight check before receiving a private pilot's license.

The commercial pilot must have at least 35 hours of flight time, of which at least 20 must be in balloons (the remaining 15 hours may be in other aircraft). The commercial pilot must pass an additional written, oral and flight check before receiving a commercial pilot's license. The holder of a commercial pilot's license may operate a balloon for hire and give flight instruction.

Balloonists must have an FAA pilot's license. A person must be at least 16 years old and have no medical condition that would prevent operating a balloon.

What does the balloon pilot need to know about weather?

Balloons generally launch, fly and land in winds less than 10 mph, so the first weather information sought by a pilot is wind speed. Because balloons can't be steered, wind direction is also important. Balloons generally fly only in daylight hours, but special

signal lights suspended below the gondola would make the balloon legal for nighttime operation.

Everyone has seen the Dawn Patrol when arriving at Balloon Fiesta Park before sunrise. These specially equipped balloons time their launch so that they land in daylight. Balloons usually fly only on clear days and are not allowed to fly into clouds. Balloons are much more fragile than fixed wing aircraft, so balloon pilots keep an eye out for changing conditions, such as storm clouds or thermals (dust devils). Turbulent air can be very dangerous to balloons, and at the first sign of such activity a pilot usually decides to land.

Ballooning Today

Today the city of Albuquerque is known as the "Hot Air Balloon Capital of the World," and the Albuquerque International Balloon Fiesta attracts tens of thousands of visitors every year. It is held at the 360-acre Balloon Fiesta Park in October. This event includes mass ascensions, special shape events, evening balloon glows, fireworks, gas balloon races and, of course, hot-air balloon competitions.

References:

Albuquerque International Balloon Fiesta:
http://www.balloonfiesta.com/Education/History/i_history.php

Anderson-Abruzzo Albuquerque International Balloon Museum:
www.balloonmuseum.com

Arizona Balloon Club: http://www.ballooningaz.com/html/balloon_history.htm

Garcia, Nasario. Albuquerque Feliz Cumpleaños! Three Centuries to Remember.

Salman, Pamela. Sandia Peak: A History of the Sandia Peak Tramway and Ski Area.

Lesson Plan: Ballooning in Albuquerque

By Steve Schripsema

Objectives:
Students will explore ballooning and its importance to the development of New Mexico. Students will learn about some of Albuquerque's distinguishing characteristics by identifying significant landmarks in the region and researching the history and importance of these landmarks. Students will understand the physics and nature of hot air balloon flight and be able to identify the parts of a hot air balloon.

New Mexico Standards: Social Studies: I-A, I-D: IIA, II-B

Background: Review the background report on ballooning. Also see the Albuquerque International Balloon Fiesta Web site www.balloonfiesta.com/Education/History.php

Activity: The Roadrunner-Coyote Balloon Race Game

Materials:

- Student handout (one per student)
- "Pilot's License" (one per student)
- Game Board (made from poster board, one or more per class, depending on class size and how you wish to play the game)
- Cards for game (make copies as required and cut apart)
- Game pieces and a penny (one per student, colored by each student)
- One die per game board.

Step 1: Earn pilot's license
Students read Study Guide and prepare for a quiz (Pilot's License). Students take quiz to determine if they are ready to "fly a balloon" in the game.

Step 2: Put together the game
This requires some prep, but students can do most of the work and once it is made, the parts can be used over and over.

A. Make a game board. Use the Albuquerque Map/Game Board sheet to make a transparency, then make individual game boards by projecting the image on a poster board and tracing. (Students might enjoy making their own game boards.) Add any additional landmarks, such as your school location, or other significant sites.

B. Students make their own balloon game pieces. Copy the game piece page to card stock (as many as necessary). Students cut out a game piece and color. Leave a tab on the bottom, and make a base by folding the tab 90 degrees and taping to the penny. Option: It is possible to use a game piece to represent a pair or small group, as well as an individual. Modify the game to fit your class needs.

C. Copy and cut out Albuquerque landmark cards. Distribute cards, then students research and collect facts for each Albuquerque landmark. Students will put this data on reverse side of cards. (Facts might include when they were built, who

designed them, the address or major cross streets, and what goes on at the site. This will enhance the game activity.

D. Make several copies of "zephyr" cards and cut out for use in game. These cards will tell the direction a balloon will fly during their turn as well as introduce a factor of luck.

Step 3: Play the game.

The object of the game is to leave the Balloon Fiesta Park, travel the Albuquerque area, identify 3 or more landmarks in the area (by landing on them), and be the first to land on a target chosen at the beginning of the game.

A. Students determine a target square (the eventual goal of everyone playing).

B. Pass out landmark cards, 3 or more per player/team (If you wrote up facts, study them before playing the game.)

C. Roll the die to determine who goes first

D. Play will follow this pattern:

1. Player/team roll die.
2. Draw a zephyr card and go the number of squares you rolled in the direction the card says, or follow directions on the card.
3. Try to land on your landmarks. (If you wrote up facts about the landmark, recite a correct fact about that landmark to get credit for the identification; otherwise study the facts on the card and make a guess for your next turn. Credit for identification is given only if a correct fact is recited about the location.)
4. After you have landed on all of your landmarks, you must go to the target square. First to arrive on target is the winner.

Other Options or Extensions:

An art or science connection might include making your own tissue paper hot air balloons. This fun activity could be in a physical science lab and would likely require several days to complete but would be something students would not soon forget. Many websites are devoted to this activity. Try:
www.ucar.edu/educ_outreach/webweather/pattern.html

Resources:

Leeuwen, Jean and Ventura, Marco. The Amazing Air Balloon.

Platt, Richard: Eureka! Great inventions and how they happened.