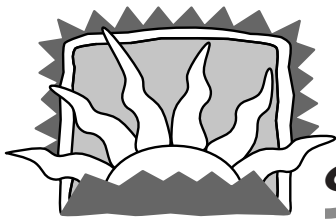


THE CHINESE EXPERIENCE IN TUCSON

The Chinese immigrants that came to the American Southwest in the 1800s adapted to their new surroundings while maintaining some of their native culture. The in-class project has students looking at photographs and artifacts to see how immigrants adapted to their new home while maintaining their traditions.



GETTING STARTED

OBJECTIVES

- to look for historical clues and information found in photographs
- to make students aware of the contributions of the Chinese community to Tucson history

STANDARDS ADDRESSED

Grades 4–5 1SS-E1 (PO2), 1SS-E4 (PO2),
3SS-E2 (PO1, PO4), Language Arts
Standard 4: Viewing and Presenting
Essentials

Grades 6–8 Language Arts Standard 4:
Viewing and Presenting Proficiency

KEY WORDS

discrimination
immigrant
prospector
segregation

MATERIALS

Copies of student handouts; one per
student or student group

TIME

60 minutes



TEACHER'S CORNER

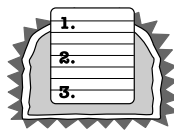
Many Chinese immigrants came to Arizona from California because of prejudice and exclusionary laws that hindered their ability to earn a living there. Not all immigrants, however, came from China through California. Some came from seaports in Mexico and then overland through Sonora.

Many Chinese immigrants first came to the Arizona Territory following the rush for gold. They worked as prospectors, reworking old Spanish claims. They originally encountered little trouble or resistance from the territorial residents. Their numbers were small and they were segregated into specific areas. As their numbers increased, Chinese immigrants began to experience discrimination. As early as 1878, there were territorial city ordinances forbidding the Chinese to work in the mines.

In 1880, the Southern Pacific Railroad reached Tucson, which brought even more Chinese immigrants. According to Lawrence Michael Fong's article, "Sojourners and Settlers: The Chinese Experience in Arizona," which appeared in the Autumn 1980 issue of the *Journal of Arizona History*, the 1880 United States census "lists 1630 Chinese residents, of which 1153 lived in Pima County, 159 of them in Tucson." The Chinese came in direct competition with Anglo and Mexican labor.

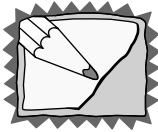
Anti-Chinese sentiment rose with the increase in numbers of Chinese immigrants. The United States government passed the Chinese Exclusion Act in 1882, banning further immigration of Chinese laborers. Those Chinese already in the country could remain, but they faced rising hostility and discrimination.

Upon completion of the railroad, many Chinese chose to remain in Tucson. They established restaurants, grocery stores, and other businesses. Some remained to labor as domestic servants and gardeners. The Chinese gardens provided territorial Tucson residents with fresh produce, which no other farmer felt was profitable enough to market.



LESSON SETUP

Make copies of handouts in **Pass It On!** Section for each student. Use information in **Teacher's Corner** section for an introduction to lesson.



LESSON OUTLINE

1. Ask students if any of them have ever moved from one home to another. Did they take everything with them? When they arrived at their new home, did they try new things that were common to the new area or did they keep doing things the way they always did before? Try to get students to see that if they moved, they probably kept some of their old habits, but they probably also adapted to their new area.
2. The teacher leads a class discussion on Chinese immigration to the Tucson area.
3. Pass out the handouts.
4. The teacher leads a class discussion as students answer questions that are printed on handout.
5. Have students compare the two photos. What do they see in the photos? What

do the two photos tell them about the life of a Chinese immigrant in territorial Tucson? *(The Charley Lee Grocery snapshot store photo; advertising in Spanish and English shows the target market of Anglos and Hispanics instead of other Chinese immigrants. Although the photo is in black and white, we can assume that the bunting on the front of the store is probably red, white, and blue and shows patriotism to the new country. Products sold include produce and baked goods, catering to the tastes of the local markets. Because this is a snapshot, it is a candid photograph of territorial Tucson. We do not know who took the photo.) (The Chun Wo family formal portrait has all the males in western wear and the females in eastern wear. Mrs. Wo was one of the first Chinese women in the Tucson area. Although Mr. Wo was adapting to*

his new country, he still went back to China to find a wife. Mrs. Wo's eastern wear illustrates her wish to maintain her identity with China. This is a formal portrait taken by an unknown photographer. Formal portraits are different from snapshots as they indicate the participant's willingness to pose for the photo. Because participants are willing subjects, they have time to plan what they will wear, how they will sit, where the photo will be taken. All of these decisions give us insight to the portrait subjects.)



PASS IT ON!

The following page is to be copied for student handouts.

Name _____

Look carefully at the photographs of Charlie Lee's grocery store and the Chun Wo family portrait. Then answer the following questions.

1. What clues help date these photos?
2. Why do you think each photo was taken? For example: Is it a formal portrait? A snapshot? Documentation of an event (like a newspaper photo)? Photographer's artistic expression?
3. What languages are on the banners on the Charlie Lee grocery store? What does this tell you about Charlie Lee's customers?
4. Even though the photo is black and white, what colors do you think the bunting (drapery) on the front of the store were? Why?
5. What cultures are represented in the dress styles worn by the Chun Wo family. Who is wearing which style? What does this tell you?
6. In what ways do both pictures show that these Chinese immigrants were adapting to an American culture?



Charlie Lee grocery store.
AHS #13298



Chun Wo family portrait
AHS #16532

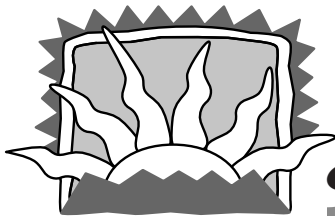
TERRITORIAL TUCSON: WATER RIGHTS

Lesson 11

A water rights trial that took place in Tucson in 1885 highlights how important the Santa Cruz River was to the residents. Students can either conduct a mock trial or perform a play illustrating the actual events.



Tucson's Chinese farmers continued selling fresh produce from the back of their wagons into the early 1900s. Note the fresh turnip the boy is eating. AHS #25728



GETTING STARTED

OBJECTIVE

To develop skills such as:

- Critical thinking
- Questioning
- Listening
- Cooperation
- Oral presentation
- Reading

STANDARDS ADDRESSED

Grades 4–5 1SS-E1 (PO1, PO2), 1SS-E4 (PO2), 3SS-E2 (PO1, PO2, PO4), R-E2 (PO2, PO4, PO5), R-E3 (PO2, PO3), R-P1 (PO2, PO3, PO4), Language Arts Standard 4: Viewing and Presenting Essentials Grades 6–8 R-E2 (PO1, PO2, PO4, PO5, PO7), R-E3 (PO1, PO3), Language Arts Standard 4: Viewing and Presenting Proficiency

KEY WORDS

acequia	maize
agriculture	pithouse
forage	produce
huerta	sedentary
irrigation	storage pits
law of prior appropriation	truck farming
lawsuit	zanjero

MATERIALS

- roles for each student
- copies of trial transcripts
- copy of student handout in **Pass It On!** Section, one per student

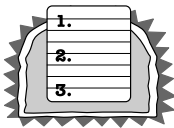
TIME

1–3 50-minute class periods, depending on extensions and details



TEACHER'S CORNER

For many years, parts of the Santa Cruz River near Tucson flowed year round. In the late 1880s, however, a combination of human and natural events caused the river to sink out of sight below ground. Territorial Tucson's dramatic increase in population, combined with a change in farming techniques, pumping more ground water, years of drought, overgrazing by cattle, and floods that destroyed some of the irrigation canals, set the stage for significant change.



LESSON SETUP

1. A mock trial should involve every student in the class. Students should be assigned specific roles, regardless of class size. In addition to the characters who are represented in the trial transcripts, other roles include judge and jury, clerk or bailiff, court artist, photographer (if you want to video or photograph the trial), and witnesses.
2. Copy and distribute to all the students the handout that gives the overview of the 1885 court case. This should be a take-home reading assignment in preparation for class discussion. The class discussion should be conducted after every student has had time to complete the reading assignment.
3. The teacher may choose to distribute the direct quotes from Excerpts from Trial Transcripts, or have students develop their own arguments based on the facts of the court case.
4. Students could be a jury and vote on a decision after mock trial is completed. After the vote, the teacher can reveal Judge F. M. Gregg's decision. Gregg

decided in favor of the defendants basing his decision on the law of prior appropriation. Mexican American farmers did not document land ownership in the American manner, and therefore, could not produce viable documents in the courtroom to back up their land ownership claims. As a result of Gregg's decision, many Mexican American farmers were unable to continue farming due to lack of irrigation. Many lost their land to Anglos who had money to purchase the land from the struggling farmers.

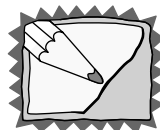
ADDITIONAL SOURCES

Drake, Charles R. *Papers 1871–1895*. MS 0228, Box 20, Folder 13, Arizona Historical Society Library.

Sheridan, Thomas E. *Los Tucsonenses: The Mexican Community in Tucson, 1854–1941*. The University of Arizona Press: Tucson. 1997.

Sonnichsen, C.L. *Tucson: The Life and Times of an American City*. University of Oklahoma Press: Norman and London. 1987.

Students may also investigate by researching newspapers of this time (May 1885) at the local public library.



LESSON OUTLINE

1. Pass out student handout for take home reading assignment.
2. Lead class discussion about the reading.
3. Questions to consider for class discussion include:
 - a. Where were the Chinese voices during the trial?

- b. What happened to the Mexican American farmers as a result of this trial?
 - c. How did local newspapers cover the trial?
 - d. What does the newspaper coverage say about which side the papers supported?
 - e. What happened to the river environment as a result of the court's decision?
 - f. Discuss "law of prior appropriation" versus "tradition and cooperation" as these two terms apply to this trial.
 - g. Do you agree/disagree with Judge Gregg's ruling? Why or why not? How would you have ruled, and why?
7. Assign roles to each student.
 8. Conduct mock trial or play.
 9. Wrap up: We know the Santa Cruz River today as a dry riverbed that contains water only after heavy rains.

It was not always like this. For centuries, people have been attracted to this area because of the fertile fields in which they planted their crops. It's hard for us to imagine the Santa Cruz River as having enough water to sustain farmland. This court case proves that it was not too long ago when farms flourished along the banks of the river. The water table dropped in very recent history, as a direct result of human actions. Wasteful water management, increased ground water pumping, and overgrazing by cattle, combined with natural occurrences like floods and droughts, led to the depletion of the Santa Cruz River.



PASS IT ON!

The following page(s) should be copied for student handouts.



Boys playing in the Santa Cruz riverbed, around 1900, with Convento Ruins in background. AHS #16532

TUCSON WATER RIGHTS TRIAL

Agriculture along the Santa Cruz River is a long story of cooperation. The south-to-north flow of the Santa Cruz River varied from season to season and from year to year. Parts of the Santa Cruz near Tucson flowed *perennially*, or year round. A series of irrigation ditches, called *acequias*, brought water from the river to farmland. During the winter months, there was usually enough water for the winter crops of wheat and barley. But during the summer months, the Santa Cruz carried only enough water to grow *fodder crops*, or crops grown to feed animals. Generally, farmers would plant their main crop in the fall or winter and limit summer plantings to small gardens or fodder crops.

The seasonal patterns of the river caused Tucson area farmers to cooperate with each other so that everyone would receive enough water to grow their crops. All the farmers met each year to elect a *zanjero* (sahn HED o), or water judge, who made sure that the distribution of irrigated water was done fairly and equitably. This crop-growing pattern and water regulation system was preserved from the Spanish Colonial Period.

The farming system began to collapse as the population of Tucson grew. Newcomers from other areas of the country and from around the world tried to maintain their former lifestyles. The demand for fruits and vegetables drove farmers to abandon their traditional farming techniques. Vegetables and fruits require more water to produce than did

the traditional winter wheat and barley crops. Traditional farmers were pitted against these new entrepreneurial farmers. The fight for control of the water had begun.

For many generations Mexican farmers had *cultivated* land, or planted crops, for personal use. They planted their gardens, called *huertas* (HWARE tahs), with winter grains, beans, chiles, onions, and melons. Huertas dotted the banks of the Santa Cruz River and were 25 or 30 feet square, with some as large as one acre.

In the early 1880s, a group of Chinese laborers that had been squeezed out of the railroad and mining industries came to Tucson and began *truck* farming. Truck farms raise produce for market, instead of for personal consumption. The Chinese had identified an untapped market: cultivating produce, or fruits and vegetables, for the growing Tucson population. Truck farmers sold their *produce* from the backs of wagons to restaurants and homes.

Truck farmers leased land mainly from Sam Hughes, Leopoldo Carrillo, and W.C. Davis; three prominent and politically active businessmen in Tucson. These three men were happy to rent farmland to the Chinese farmers. In addition to collecting rent for the land, they received a percentage of the profits that the farmers made selling produce. Although the Chinese gardens were small at first, by 1884 they had encompassed 100 acres along the Santa Cruz. By 1885, the fields covered 150 acres. The larger fields

produced more crops. This meant more money for the farmers, which made more money for Hughes, Carrillo, and Davis.

Other gardens in the area also required irrigation. Bishop Salpointe and the Sisters of Saint Joseph grew produce for the convent and the hospital. Between the Mexican huertas, the Chinese gardens, and the church gardens, the strain on the water supply created problems and generated arguments among farmers in the Tucson area.

In 1883, Solomon Warner added to the strain on the water supply by building a dam for his flourmill. The dam drastically reduced the flow of water to farmers downstream. The farmers accused Warner of illegally restricting the flow and of wasting water because his irrigation gates leaked. The farmers downstream talked about filing a lawsuit against Warner.

Other people pointed to the truck farmers as the cause of Tucson's water problem. Many farmers felt that the Chinese fields had grown too large for the amount of water available. Chinese produce needed more water than traditional wheat and barley. The truck farmers also wanted to irrigate their fields more often than was customary, asking for water on a daily basis instead of just on weekends. Truck farmers were even accused of stealing water when they did not receive the amount for which they asked.

The final insult to downstream farmers came in 1885 when Hughes, Davis, and Carrillo appointed themselves water

commissioners and gained complete control of water distribution. The new commissioners erected a stone-and-brush fence at the same site where a fence had previously existed. The first fence had been built only to keep animals and people out of farmland, and had nothing to do with water control. The original fence had been built so long ago that only the oldest residents of Tucson could remember it.

Zanjero W. A. Dalton quit his job when he heard about the impending lawsuit. Lorenzo Rentería became the new zanjero and, at the request of the water commissioners, notified farmers north of the fence that there would be no more water for them. As a result, downstream farmers filed their lawsuit to stop Warner, the Chinese farmers, Hughes, Davis, and Carrillo from using more than their share of the water supply.

During the trial, the defendants invoked the *law of prior appropriation*, which stated that older fields should receive water before the more recent fields. This rule was based on the principle of "first in time, first in right." The plaintiffs, on the other hand, relied on the traditional custom of water distribution. For generations, farmers had cooperated with each other. Water was distributed fairly, with each farmer receiving the same amount. When water was scarce, it went to the fields that needed it most. The trial lasted three days.

EXCERPTS FROM TRIAL TRANSCRIPTS**SUIT OVER WATER RIGHTS ON THE SANTA CRUZ RIVER.**

Drake, Charles R. Papers, 1871–1895, Box 20 Folder 13. MS 0228

Characters:

- a. Mr. Stephens: attorney representing the plaintiffs (the ones filing the lawsuit)
- b. Mr. Lovell: attorney representing the defendants (the ones the lawsuit was brought against)
- c. W.A. Dalton: previous zanjero who had quit the job when the lawsuit was filed
- d. Pedro Higuerra: one of the plaintiffs, a Mexican farmer
- e. Francisco Munguía: one of the plaintiffs, a Mexican farmer

The portion of the transcript begins with Mr. Stephens (representing the plaintiffs) questioning W.A. Dalton (the previous zanjero).

Stephens Do you know whether any fields were irrigated above Lee's Mill?

Dalton There are fields irrigated above Lee's Mill, but not exactly from those same waters that we use.

Stephens Where did they get the water?

Dalton From the river up above.

Stephens Have those lands of yours any other source of supply of water except from the acequia?

Dalton No sir.

Stephens Can you raise crops on that land without irrigation?

Dalton NO [sic] sir.

Stephens Were you deprived of the water from these ditches on these lands?

Dalton I was told that I could not have any water unless there was a surplus; if there was any surplus available it would be turned down to any person to make it available.

Stephens Who told you that?

Dalton Leopoldo Carrillo.

Stephens What did Leopoldo tell you when you talked to him about the water?

Dalton Some days ago Mr. E.N. Fish and myself called upon him...to see him about this water. We had been informed by the water-overseer that there was no more water.

Stephens Who was the water-overseer?

Dalton The acting over seer was Rentería; Lorenzo Rentería.

Stephens Go on...

Dalton That there was no more water for the land below. We had a meeting and appointed a committee composed of Fish, C.S. Leon, and myself to wait on Mr. Hughes and Mr. Carrillo to see if we could get the water. We waited on him and we were told that the orders of the commissioners to the officer was "not to allow any water below the Lane unless there was a surplus, that

when there was a surplus to turn the water down the ditch, and let the first get it that could." I told Mr. Carrillo that we were not begging for charity, that we only wanted what was our own, and if we could not get it by fair means, we would go to law.

Stephens Do you know the lands of Emilio Carrillo, Joaquín Ramon Telles, E.N. Fish, Lauderio Acedo, Pacheco, Cerilio S. Leon, and all the other plaintiffs as described in the complaint?

Dalton I do.

Stephens Where do these lands lie?

Dalton North of Sister's Lane. [presently St. Mary's Road]

Stephens I will ask you if any of them can be cultivated without water.

Dalton No sir.

Stephens What would happen to these lands without irrigation?

Dalton Complete failure.

Stephens What about priority of claim?

Dalton Some few claimed the prior right, three or four; and as I see could not determine which had the first right, I would tell the person that there was a provision or law in regard to when there was a scarcity of water, that the oldest should have it and I demanded them to show some official document and he who showed the oldest should be preferred.

Stephens Nobody showed you documents?

Dalton Mr. Hughes showed me a document dated 1817.

Stephens Do you know, Mr. Dalton, whether prior to this year, people living north of the land had a right to do equally with the people living south of the Lane?

Dalton Yes sir.

Stephens My object in introducing these notes is to show that there was no differences [sic] made between the parties living in the north of the hospital road and the people living south of it. I am offering this evidence to show that at that time, that it was an afterthought...I shall follow that up by showing that since these Chinese gardens have come to the front, that recently they have held meetings and have not called any of the people from the north side of the lane.

Stephens What was the trouble about the Chinese gardens?

Dalton They were getting too much water.

Stephens Where are these gardens?

Dalton On the southern side of Sister's lane [St. Mary's Road].

Stephens How long have they been in existence?

Dalton Some...two years and some only one.

Stephens What was the objection to the gardens?

Dalton They consumed too much water.

Stephens How much more did they use than an acre of wheat?

Dalton Over twice as much.

Stephens I am going to show that the gardens have been increased nearly every year; they are owned by these defendants, lying on the south of the road, and I will use that to show why the water is cut off, in my argument. I now offer an agreement signed by some of those land owners, not dated, signed by E.N. Fish, W.C. Davis, J. Telles, Cerilio Leon, Romero and various others to show that they banded themselves together for the purpose of objecting to the abuses of the Chinese gardens. I offer this agreement as tending to show the action of these people on that proposition, and also on the proposition of what became of the water.

Stephens I will ask from your experience in water matters whether there is sufficient quantity of water to irrigate the entire 1439 acres, if it is managed judiciously?

Dalton There has been within the last few months, and is now at present, sufficient water with proper management to more than make all the crops of wheat and barley, now growing on all of these lands. Last year, during my administration as water overseer, during the month of April, I irrigated all those lands then growing in wheat and barley, and there was not a single crop lost for want of water, and besides that, I irrigated all the Chinese gardens, and chili pepper patches on Sunday: sometimes one would be left, but when the hot weather comes on, it is not sufficient, because the supply diminishes, and the best management could not do it.

Stephens How often did the Chinese gardens require water?

Dalton Every week: they are wanting it every day and continuously, but they should have it once a week for the purpose of irrigating.

Stephens Do you know who the owners of the Chinese gardens are?

Dalton Mr. Leopoldo Carrillo . . . Mr. Davis, Mr. Samuel Hughes, Mr. Solomon Warner, and Mr. John Warner, and the Sisters of St. Joseph occupy a small patch, and the bishop owns a small patch occupied by a Mexican producing some kind of vegetables.

SECOND DAY (MAY 9, 1885)

Cross-examination by Mr. Lovell, the defendants' attorney. Mr. Lovell questions W.A. Dalton.

Lovell Did he [Leopoldo Carrillo] tell you that they [people north and south along the river] were equally entitled to it?

Dalton He made an objection to assisting all those lands equally; and I said, because you are old [Carrillo's farmlands are older] and we are young you claim the privilege. The only privilege that I admit you have is in your geographical position, you get the water first, but if you say that because we are young we should pay more, I said, as far as I am concerned, I will pay double, treble, five times as much, but let us have the water.

Redirect by Stephens

Stephens I want to ask you if you know, Counsel, talked to you about gardens, what is the difference, if you know, between a Chinese garden, such as it is cultivated in this valley and a Mexican garden?

Dalton The difference is this; the Chinaman raises cabbages, garlic, and in fact everything in the vegetable line from an artichoke to the biggest cabbage, and the Chinaman makes it a matter of business and he produces all he possibly can, and as often as he possibly can. The Mexican garden produces a few chili peppers, onions, garbanzo beans, water melons, &c. [etcetera] The gardens are from about 25 or 30 feet square to as much as an acre. They are called gardens or huertas.

Stephens Does the Mexican cultivate his garden as much as the Chinaman does?

Dalton No sir.

Stephens Is the Mexican garden merely an adjunct to his house or a matter of gain?

Dalton It is an adjunct to his home generally.

**Testimony of Pedro Higuerra [plaintiff, Mexican farmer]
when questioned by Mr. Stephens on May 11, 1885.**

Stephens What was the custom as to water as far as you know?

Higuerra Well, the custom was to always divide the water wherever there was a necessity of it, if the parties below needed water it was sent down, if those from above needed it, it was stopped from above.

**Testimony of Francisco Munguía [plaintiff, Mexican farmer] when questioned by
Mr. Stephens on May 11, 1885.**

Stephens How long have you been farming these lands?

Munguía For the last 20 years.

Stephens Have you or have you not raised crops every year on those lands down there?

Munguía Yes sir, I have raised gathered crops every year on those lands except this year, I have lost 14 quintals of seed.

Stephens Why have you lost it this year?

Munguía Because the gentlemen from above marked a line and cut the water off from that line; I did not know until they had made the line.

Stephens Do you know who those gentlemen are?

Munguía Leopoldo Carrillo, Samuel Hughes, Mr. Davis, and Rentería.

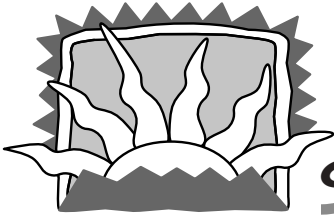
Stephens What has been the custom for the last 27 years to irrigating in those ditches?

Munguía We have been accustomed to use it, those above as well as those below, under the orders of a commission to be divided equally, impartially; and if any field suffered for water whether above or below that should have the water first.

TIME CAPSULE ACTIVITY

Lesson 12

Time capsules are a great way in which to bring together all the archaeological concepts and historical information gathered from the manual.



GETTING STARTED

OBJECTIVES

- concludes manual lessons
- provides a wrap-up for archaeological and historical concepts

MATERIALS

Turning Points in Tucson's History timeline or layered dessert handout from Lesson 2.

TIME

60 minutes

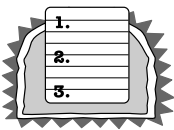


Photograph taken by Carlton Watkins from Sentinel Peak ("A" Mountain) in 1880, shows the agricultural fields that filled the bottomlands of the Santa Cruz River. The Convento and granary are visible near the center of the photo.



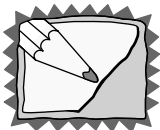
TEACHER'S CORNER

Historians and archaeologists work side by side to reconstruct the story of Tucson's past. Sometimes historical documents provide the clues that point archaeologists in the right direction. Other times, archaeologists uncover information missing from the historical record. On the occasions where the archaeological and the historical records differ, it is up to the history detectives to search for more evidence to discover the truth. The optimum situation occurs when both records coincide. To make the future historian's job easier, it is up to us to accurately document history as it happens.



LESSON SETUP

1. Divide the class into groups of three or four students.
2. Have each group select six objects to be put into a time capsule not to be opened until the year 3000. The goal of each group is to explain Tucson's history to people in the future. Students are to agree, as a group, on what are the most significant aspects for future historians to know.



LESSON OUTLINE

1. Begin a class discussion by reviewing the timeline of Tucson's history. Teachers may also opt to reproduce the "layers of Tucson history" transparency from Lesson 2 to use for review purposes.

2. What are the most important turning points in Tucson's history, in your opinion? Why?
3. What aspects of Tucson's history would you include in the Rio Nuevo Project?
4. Once the Rio Nuevo project is complete, what do you believe people in the future will think of it?
5. Imagine that all the historical records of Tucson have disappeared and that Tucson is abandoned for 1,000 years. What might people in the future think they have found if archaeologists uncover the Rio Nuevo buildings?
6. Do you think they might misinterpret some things? What might they misinterpret?
7. How would people reconcile having modern buildings of the 2000s among mission buildings of the 1700s and pithouses of the 1300s?
8. We are going to document our community's history to help future historians and archaeologists interpret Tucson history.
9. Break students into their groups.
10. Explain that they must come up with six items to include in a time capsule that will explain Tucson history to future generations.
11. Once the groups have decided on their six items, have each group select a spokesperson who will reveal the group's choices in front of the class. They must explain their choices and why they made them.
12. Once time capsules are completed, the class must decide what to do with them. Have the class investigate possibilities.

- a. Consider burying the time capsules on your school property with instructions to future students on where they are buried and when they should open them.
- b. What other ideas might the class have about where to store a time capsule?



PASS IT ON!

There are no handouts for this lesson plan.



A modern view of Tucson.

ARIZONA STATE STANDARDS ADDRESSED

SOCIAL STUDIES: HISTORY

Essentials

GRADES 4–5

1SS-E1. Understand and apply the basic tools of historical research, including chronology and how to collect, interpret, and employ information from historical materials.

PO 1. Place key events on a timeline.

PO 2. Identify primary and secondary sources historians use to construct an understanding of the past, including archaeological evidence.

1SS-E2. Describe the legacy and cultures of prehistoric American Indians in Arizona, including the impact of, and adaptations to geography, with emphasis on:

PO 1. How archaeological and anthropological research gives us information about prehistoric people.

PO 3. Development of agriculture with the domestication of plants.

PO 4. The distinctive cultures of Hohokam, including where they lived, their agriculture, housing, decorative arts, and trade networks.

PO 5. How prehistoric cultures adapted to, and altered, their environment, including irrigation canals and housing.

1SS-E3. Describe Spanish and Mexican colonization and economic, social, and political interactions with the first inhabitants of Arizona with emphasis on:

PO 1. The location and cultural characteristics of the O’odham and Apaches during the Spanish period.

PO 3. The reasons for Spanish

colonization, including establishment of missions, presidios, and towns, and impact on native inhabitants.

PO 4. The contributions of Father Kino.

PO 5. The creation of unique, strongly held cultural identities from the Spanish and Indian heritage.

PO 6. The change of governance from Spain to Mexico.

1SS-E4. Describe the economic, social, and political life in the Arizona Territory and the legacy of various cultural groups to modern Arizona, with emphasis on:

PO 1. How Arizona became a part of the United States through the Mexican Cession and the Gadsden Purchase.

PO 2. The lives and contributions of various cultural and ethnic groups, including American Indians, Hispanics, and newcomers from the United States and other parts of the world [including Chinese].

SOCIAL STUDIES: GEOGRAPHY

Essentials

GRADES 4–5

3SS-E2. Describe the impact of interactions between people and the natural environment on the development of places and regions in Arizona, including how people have adapted to and modified the environment with emphasis on:

PO 1. The reasons for migration to, and the settlement and growth of Tucson, including mining, ranching, agriculture, and tourism.

PO 2. How places are connected by movement of people, goods, and ideas

including the connection of Mexico to Arizona.

PO 4. How people have depended on the physical environment and its natural resources to satisfy their basic needs, including the consequences of Arizona's adaptation to, and modification of the natural environment.

SCIENCE STANDARD 1: SCIENCE AS INQUIRY

Essentials

GRADES 4–5

1SC-E1. Identify a question, formulate a hypothesis, control and manipulate variables, devise experiments, predict outcomes, compare and analyze results, and defend conclusions.

PO1. Distinguish between a question and a hypothesis

PO2. Describe the functions of variables in an investigation

PO3. Predict an outcome based on experimental data

PO4. Draw a conclusion based on a set of experimental data

1SC-E3. Organize and present data gathered from their own experiences, using appropriate mathematical analyses and graphical representation.

PO1. Organize and present data into an appropriate format

PO2. Construct a representation of data (e.g., bar graph, line graph, frequency table, Venn diagram)

GRADES 6–8

PO1. Construct a representation of data (e.g., histogram, stem-and-leaf plot, scatter plot, circle graph, flow chart)

PO2. Interpret patterns in collected data

SCIENCE STANDARD 2: HISTORY AND NATURE OF SCIENCE

Essentials

GRADES 4–8

2SC-E2. Describe how science and technology are interrelated

GRADES 4–5

PO1. Describe how science has helped technology change over time

PO2. Describe how technology has helped science change over time

GRADES 6–8

PO1. Describe a technological discovery that influences science

PO2. Describe a scientific discovery that influences technology

PO3. Determine scientific processes involved in a technological advancement

2SC-E4. Identify characteristics of scientific ways of thinking

GRADES 4–5

PO1. Describe a variety of ways scientists generate ideas

GRADES 6–8

PO1. Describe the following scientific processes: observing, communicating, comparing, organizing, relating, inferring, and applying.

2SC-E5. Explain how scientific theory, hypothesis generation and experimentation are interrelated.

GRADES 4–5

PO1. Explain the role of a hypothesis in scientific inquiry

PO2. Explain the role of experimentation in scientific inquiry

PO3. Describe how a scientific theory can be developed and modified

GRADES 6–8

PO3. Explain how experimental results may affect a hypothesis and a theory

2SC-E6. Demonstrate how science is an ongoing process of gathering and

evaluating information, assessing evidence for and against theories and hypotheses, looking for patterns, and then devising and testing possible explanations.

GRADES 4–5

PO1. Explain how a scientific theory changed over time

PO2. Explain how a hypothesis changed over time

SCIENCE STANDARD 6: EARTH AND SPACE SCIENCE

Foundations

GRADES 4–8

6SC-F5. Identify major features of natural processes and forces that shape the earth's surface, including weathering and volcanic activity.

PO1. Identify natural forces (e.g., water, ice, wind) that shape the earth's surface

PO2. Identify natural processes (e.g., weathering, erosion, global warming) that gradually shape the earth's surface.

6SC-F8. Describe how fossils provide evidence about the plants and animals that lived long ago and the nature of the environment at the time.

PO1. Identify how fossils provide evidence about plants that lived long ago

PO2. Identify how fossils provide evidence about animals that lived long ago

PO3. Explain how fossils of plants and animals provide evidence about the nature of the environment at that time

ESSENTIALS

6SC-E3. Describe the composition (including the formation of minerals, rocks, and soil) and the structure of the earth

GRADES 4–5

PO1. Describe the layers of the earth and their compositions

6SC-E4. Provide evidence of how life and environmental conditions have changed

GRADES 4–5

PO1. Describe how life has changed over time (geologic and recent)

PO2. Describe how environmental conditions have changed over time (geologic and recent)

6SC-E5. Explain how earth processes seen today, including erosion, movement of lithospheric plates, and changes in atmospheric composition, are similar to those that occurred in the past

GRADES 4–5

PO1. Identify earth processes

PO2. Compare the processes which affect the earth today with those that occurred in the past

6SC-E6. Describe the distribution and circulation of the world's water through ocean currents, glaciers, rivers, ground water, and atmosphere

GRADES 6–8

PO1. Describe the role water plays within the operation of the earth

PO2. Describe the movement of water on the earth

LANGUAGE ARTS STANDARD 1: READING

Essentials

GRADES 4–8

R-E2. Use reading strategies such as making inferences and predictions, summarizing, paraphrasing, differentiating fact from opinion, drawing conclusions, and determining the author's purpose and perspective to comprehend written selections