

Adobe Springs Interpretive Program

Third Grade Lesson Plans
Aligned with the Common Core &
Next Generation Science Standards

Adobe Springs
Nature Preserve



Atascadero Land Preservation Society
www.supportalps.org

Lessons Developed by: Katherine Perilloux

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About Adobe Springs

On the eastern side of Atascadero a five-acre tract of land with a series of artesian springs has been acquired by the Atascadero Land Preservation Society (ALPS). Appreciating the great historic and natural value of this resource to the community, ALPS named this parcel 'Adobe Springs' in recognition of an old adobe built nearby. The springs flow from pressure built within deep confined geologic strata resulting in consistent flow and temperature (~65°F) minimally affected by surface weather.

Historically, many groups have utilized the springs. They provided reliable drinking water for Native Americans for many centuries while also being a valuable water source for wildlife, especially in late fall, when other water sources have dried. When European explorers began migrating and settling in this area, their use of the springs for drinking water is well documented. The Juan Batista de Anza party journeyed along the Salinas River corridor in the late 18th Century and benefited from these springs. In the 1810's, an adobe was constructed near the springs as a southern outpost for Mission San Miguel. In the mid-1800's Pedro Estrada and his family acquired a Mexican land grant on the territory where Atascadero is today. The adobe became the home of the Estrada family until 1897 and then was used by transients and railroad works for many years. The adobe lasted over 150 years but eventually disintegrated from neglect.

The Atascadero Land Preservation Society is the proud steward of Adobe Springs today. Future plans for Adobe Springs include restoration of native habitat and providing environmental education opportunities through docent led hikes for local schools and the community.

For more information or to contact ALPS, visit www.supportalps.org.

Adobe Springs Portfolio

Before you begin the Adobe Springs unit, consider creating a portfolio that will hold all of the worksheets and activities. Note: This portfolio would not be able to be assembled until all of the worksheets and items that you would like in it are completed.

1. Take a piece of 9" x 12" construction paper and let the students decorate the cover with the title "Adobe Springs" and their names. This will be the cover.
2. Put all of the worksheets and papers that will be a part of the student portfolio after the cover page. Then use another sheet of the same sized construction paper for the back cover of this book.
3. Make two holes on one side, but not too close to the edge. Make sure all of the papers are lined up between the cover page and back page.
4. The students will use a stick and a long rubber band for the binding. Put the rubber band through each of the hole punches from the back side. Slip the rubber band over both ends of the stick on the front cover.
5. Now you have an Adobe Springs Portfolio!

*An example of this portfolio is included in the teacher's kit.

Native Americans - Salinans

About the Salinans

The Salinan homeland is in California in the Salinas Valley, along with small groups along the Central Coast. Historically, they lived in round structures approximately 10 meters across that were made with willow poles covered in tule thatching. One of their village sites was the area around Adobe Springs and the Estrada Adobe. The Salinans ate acorns, pine nuts, berries, seeds, bulbs, fish, shellfish, deer, rabbits, squirrel and other small animals. The men hunted, made different tools (e.g. arrowheads, spears, and bows and arrows), made and mended fishnets and hooks, and made dugouts and smaller raft-like boats by bundling reeds. The women gathered seeds, acorns, pine nuts, and berries, cooked the meals, prepared animal hides and tule reeds for blankets or mats and clothing, and made clothing and wove baskets. In mid-October each year, the Salinans celebrated the Acorn Harvest Ceremony. This represented the beginning of their calendar year when they had a feast, dancing, and games, and families reunited to celebrate the gathering of acorns. They traded large animal hides, mountain minerals, and rocks (to be used for arrowheads and paints) for fish, shells, salt, and soapstone with other inland and coastal tribes. Shells were strung on hide strips and used as money.

Make sure to emphasize with your students that there are Salinan people alive today!

Pre-Activities:

I Speak Hokan!
Pamphlet
Seed Need (Fall Activity)
(Spring Activity)

Materials:

Computers/Technology
Document Camera/Projector
Salinan Language Vocabulary

Pamphlet Handout
Pamphlet information

Large Socks or Masking Tape
Paper/Plastic bag
Optional: a shoebox, planting medium,
cookie sheets or trays

Post-Activities:

Basket Weaving

Materials:

Yarn (natural colors if possible)
White Paper Cups or Clear Plastic Cups
(5 oz or 9 oz)
Template
Scissors
Black Pen

Additional Resources:

California Indian Food and Culture Kit:
http://www.lessonsofourland.org/sites/default/files/CA%20food%20teaching_kit.pdf

I Speak Hokaan!

Engagement:

Show the class a California map (page 7) that shows key landscape features and a map of Native California (languages and tribes, page 8).

1. Looking at the first map, why would the Salinans want to settle in this area? Talk about physical geography, including climate, influenced how the Salinan Indians adapted to their natural environment (food, clothes, tools).
2. Looking at the second map, which tribes inhabited our area on the Central Coast? Explain that we are going to focus on the Salinans for our Adobe Springs studies.

Explore:

Language is a very important part of everyday life and culture. It is the way that we communicate with each other and learn. Have the students explore the Salinan language by passing out handouts (page 9) of vocabulary words. Using technology, have the students look up words they are not familiar with on dictionary.com. Then have them see if they can find definitions for the Salinan language.

1. Would the students be able to communicate using that list of words given?
2. What kinds of things would be able to talk about with their friends and family?

Students should notice that there are many vocabulary words about nature, food, family members, and items that they crafted. Have students discuss among the class their ideas about the Salinan vocabulary. Explain that the Salinans are speakers of Hokaan, the most widespread ancient language in California. They were similar to the Esselen and Chumash tribes, and therefore were able to trade amongst themselves. Most of their foods, such as acorns, seeds, and fruits, were cooked. Due to the location, they could get seafood from the coast, the streams had trout, and they could hunt in the mountains.

Explain:

Have students create a document to create their own definition of *water*. Have them use the Salinan word for water, tc'a, or spring of water, telukutea', to define (or use dictionary.com's definition) and add a clipart picture and/or Google images. Encourage students to change the font, size, and color of the text (page 10).

California Social Science Standard:

3.1 Students describe the physical and human geography and use maps, tables, graphs, photographs, and charts to organize people, places, and environments in a spatial context.

Objective:

1. Identify geographical features in their local region (e.g., deserts, mountains, valleys, hills, coastal areas, lakes)

AUSD Technology Standards

L.4 Investigate: Use digital glossaries and dictionaries to clarify meaning.

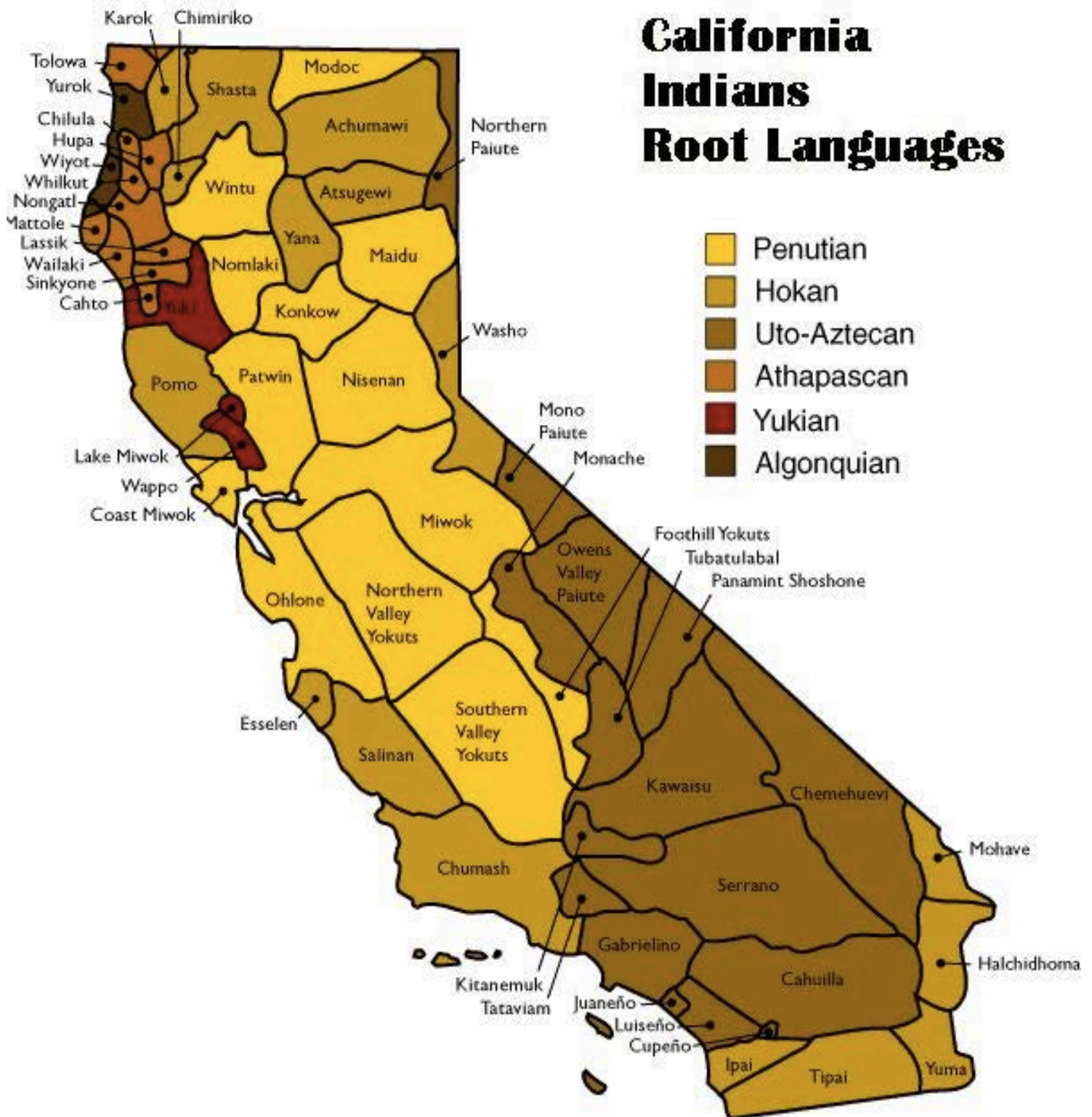
W.6 Communicate, Create, and Collaborate: With guidance and support from adults, use technology to produce and publish writing as well as to interact and collaborate with others.

Common Core ELA—Literacy:

Vocabulary Acquisition and Use (L.3.4.D) Use glossaries or beginning dictionaries, both print and digital, to determine or clarify the precise meaning of key words and phrases.



California Indians Root Languages



Salinan Vocabulary

English	Salinan	English	Salinan
acorn mush or soup	Na'sil	rainbow	saiy'N
acorns	K ^c -ap ^c	rattlesnake	Tet!aut' onE'
antlers	etala-k	seed beater	Tona'L
basketry hats	Ts! waketE'	seed granaries	sap'k'a'
beads, pink	Kni el i	shell of egg	ca'lo
brother	ito'l	shoulder	ita'l
cloud	pa'—i	skin, hide	axwe'm
coiled baskets	T Eca'	sky	le'ma
dog	xute	small trinket baskets	TopE's
elder brother	ka'i	smoke	ta'te,t
eye	cuke'net	son, child	as
father	ek'	spring of water	telukutea'
feathers, whiskers	ecax	storm	ta'pit
finger, toe	a—pela'i	sun	Na'
fire	ta'a'u'	thunder	t'e'lowa
games	kusku'i	to eat or food	Lam
girls	see'l	tongue	epa'l
grandmother	sit-jar	trays	cal
head	a'ak	trinket baskets	topE's
heart	e—xiwai	white oak	t' w'i
hill	t'uLne	white willow	P E sXe' T ^c
holes, caves	te—le'k'	water	tc'a
house, my	Tama or Ta'ma	wind	ts'a—kai
hummingbird	chuparosa	woman	lets'e'
lightning	sokanto	world	emk'we'L
live oak	cxau'Wat		
male, man	lu—wa'	Numbers	
moon	tats'o'opi	one	t'ol
morning star	macala'k	two	xáxic
mountain	tpoi, tpo—I, tso'la	three	lápáy
mouth	e'lek	four	k'íca'
my house	Tama or Ta'ma	five	oltááto
neck	etea—i		
night	Sm _a 'K'ai		
nose	e'net		
oak, hill	p ^c a'pix		
oak, live	cxau'WAT		
oak, post	p ^c ā ^c t		
oak, white	t'oi'i		
parent	ienxe'		
path, trails	lu'a, lue		
post oak	p ^c ā ^c t		
quail	ho'mlik		

Adapted from: *Salinan Indians of California and their neighbors* by Betty War Brusa

Telukutea'

Sample of Spring of Water
Definition

“spring of water”



(noun)

underground water that is held in the soil and in open rocks

Salinan Pamphlet

Engagement:

Ask the students a few questions to get them thinking about Native Americans and their way of life. Questions can include:

1. What kind of foods do they like to eat for dinner?
2. Do you know how your food was cooked?
3. What types of foods do you think the Salinan Tribe ate?

Explore:

Use the pamphlet and handouts (pages 9, 12-17) to have the students learn more about the Salinans and their daily life. In groups of four, have the students become an expert on one topic. Have them look at and choose the most important information from what they read. After they have become experts on their specific topic, the student will then share with their group the information they have learned. Students will then fill in their pamphlet with all of the information they have learned about the Salinans.

Optional: Students can use technology to look up definitions of other words and what the average temperature is in October.

Explain:

Using the pamphlet, students will write and draw about several different aspects of the Salinans' lives including jobs, food, homes, and language. Students should be able to take the information they are given and demonstrate what they have learned from conversations and the information sheet.

Next Generation Science Standards:

[3-ESS2-1] Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

California Social Science Standard:

3.2 Students describe the American Indian nations in their local region long ago and in the recent past.

Objective:

2. Discuss the ways in which physical geography, including climate, influenced how the local Indian nations adapted to their natural environment (e.g., how they obtained food, clothing, tools).

Vocabulary:

Granary: structures often made out of plant materials, to hold acorns or other foods for storage

Meal: coarsely ground grain, such as corn meal or dry cream of wheat

Reed: a tall, slender-leaved plant of the grass family that grows in water or on marshy ground

Rye: a wheat-like cereal plant that tolerates poor soils and low temperatures

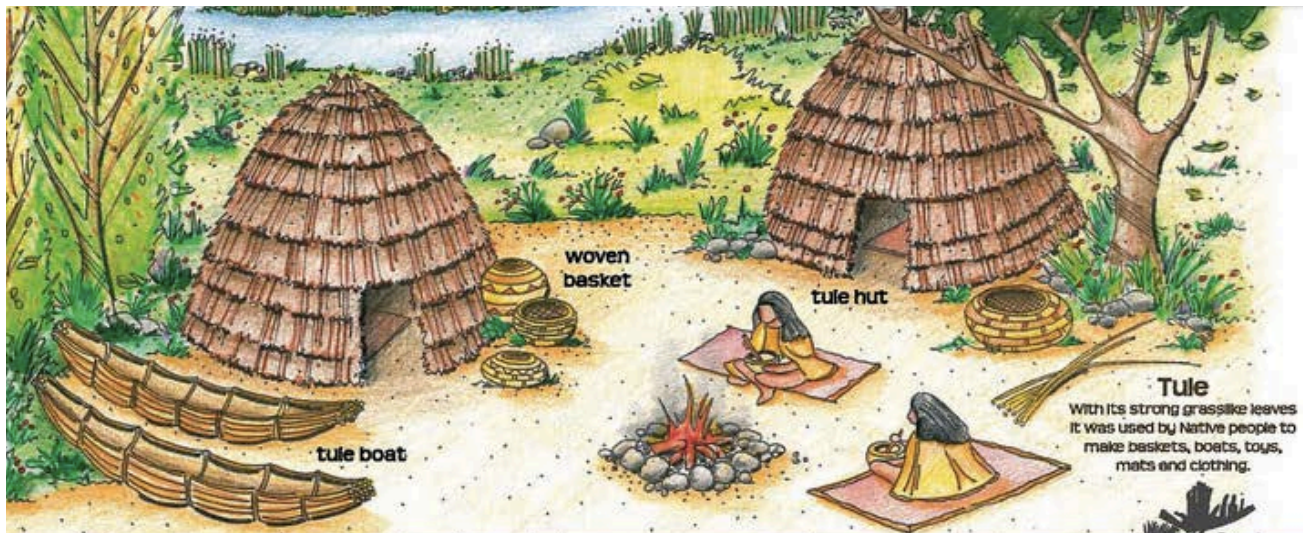
Tule: a large bulrush that is abundant in marshy areas of California, like a cattail

Thatching: covering (a roof or a building) with straw or a similar material

Salinan Facts: Population & Homes

Population

In 1771, **3000** Salinans lived in California in the Salinas Valley. There were also small groups that lived along the Central California Coast, including around Adobe Springs and the Estrada Adobe.



Homes (Ta'ma)

The Salinans lived in round structures that were about ten meters across. They were made with willow poles covered with tule thatching. Extended families lived together in a common round house. The walls were made of tule. A fire was built near the middle of the hut with a smoke hole near the center of the roof for the smoke to escape. They also made a shade structure by a post that was built at each corner and the center. Four roof poles connected the center and corner posts, so other poles could be laid across. The roof was covered by thatch of bundles of rye or tule grass.

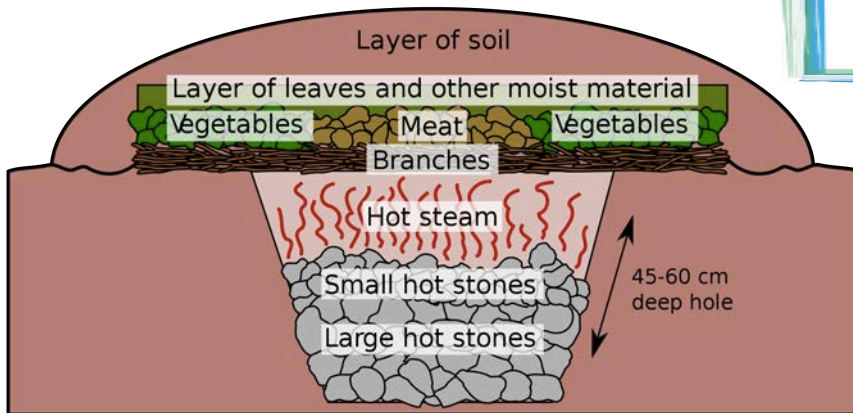
Salinan Facts: Food

They ate seeds (pine nuts) and berries (wild blackberries, strawberries).

Acorns from oak trees were used for making mush and flat bread.

They fished on the coast and in streams for fish and shellfish.

They hunted in the mountains for deer, rabbits, squirrels, and other small animals.



Earth's Oven

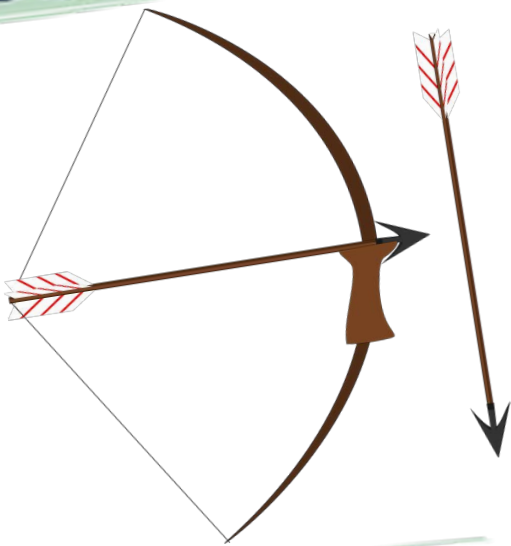
How to Make Bread

Acorns from deciduous oaks were gathered and stored in granaries until they were ready to be used. Granaries are tall basket like containers made from slender branches of white willow. They were constructed on the ground without a bottom. Acorns were removed from the granary and dried in the sun. Once they were dried, they were pounded to create a fine meal. The meal was kept from scattering by use of a flared hopper basket. Then the meal was leached and cooked. "Gruel" made from the acorns was known as acorn mush or soup, and it was cooked with hot stones in a basket. The stones were stirred to make sure that heating was done evenly and to prevent holes in the basket. Bread made from the meal was baked in earth's oven (a hole in the earth), and usually cooked through the night.

Salinan Tribe Facts: Men & Women's Jobs

Men and Boys' Jobs

The men and boys were hunters. They made arrowheads, bows and arrows, and spears. They made and stitched fishing nets and hooks. Men and boys also made dugouts and smaller boats by bundling reeds.



Women and Girls' Jobs

The women and girls gathered seeds, acorns, and berries. (*One family needed 1500-2000 pounds of acorns every year!*) They did all of the cooking and prepared the animal hides and tule reeds for blankets or mats, and clothing. Women and girls also made clothes and wove baskets.

Baskets

Salinans were skilled basket weavers. They were used to hold household utensils, pots, pans, and cups. The baskets were beautiful and were made with careful detail. Some Salinans added designs that had special meanings.



Salinan Facts: Celebration & Trade

Celebration

In mid-October every year, which was the beginning of the Salinans' calendar year, they celebrated the Acorn Harvest Ceremony. They had a feast, dancing, and games. Families reunited to celebrate the gathering of acorns.

The weather is normally about 80 degrees during the day and sunny in mid-October.



Trade

They traded fish, shells, salt, and soapstone with inland tribes, which lived away from the coast, to get large animal hides, mountain minerals and rocks, which they used for arrowheads and paints.

Money

Shells were strung on hide strips and used for money. An example of a shell value would be
3 strings of shells = 1 house.

The shells were turned into beads and represented wealth. They used abalone and mussel shells in three different colors:

Blue beads = greatest value

Pink beads = medium value

White beads = least value

Geography

Color where the Salinan Tribe lived.
With another color, color the area of the people who they traded with.



Money

Draw the three different colors of shells.

Salinan Language

Salinan Word: _____

Definition: _____

Traditional Salinan Song Deer Song

Toe Pay Ca Ha Ten
Toe Pay Ca Ha Ten

Et Ta Co Low Ta Ah
Et Ta Co Low Ta Ah

Toe Pay Ca Ha Ten
Toe Pay Ca Ha Ten

Et Ta Co Low Ta Ah
Et Ta Co Low Ta Ah

Ho

Native Americans: Salinans

Name: _____

Teacher: _____

Grade: _____

Date: _____

Men & Boys' Jobs

Women & Girls' Jobs

Food

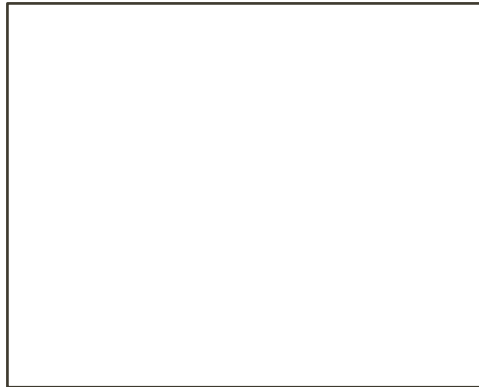
What are 3 foods that the Salinans ate?

1. _____
2. _____
3. _____

What did they use to make bread?



Weather Forecast for the Acorn Harvest Ceremony



Homes (Ta'ma)

What were the Salinans homes made
out of?

Draw the shape of the homes

How long was the house?

What was in the middle of the house?

Draw a Salinan home.

Seed Need (Fall Activity)

Engagement:

The seeds of many plants were eaten and played an important role in the Salinans' diet. They harvested their seeds with seed-beaters and baskets, then stored them in seed-granaries until they were ready to be used. The Salinans made mush or soup with them. Their staple seed was wild oats, which was found in the hills. They ate three varieties of grass, as well as sage, chia, and wild sunflower. They even traded seeds. It is important to know how the animals contributed to the ecosystem with the seeds. They carry the seeds. *What are some ways that animals could carry seeds?* Animals carry seeds in their fur and birds carry and drop them. Animals, such as pack rats and squirrels, gather seeds and store them. Many seeds are eaten but not fully digested, so animal droppings distribute and fertilize seeds.

Explore:

1. Have the students put on a sock over their shoe (or a piece of masking tape over their foot/ankle) and walk through a grassy area. This area should be abundant in seed-bearing plants. Have the students form teams and walk in different locations so they will be able to contrast seeds found in different locations.
2. The students should look at their sock and see what happened. They should identify seeds and other objects they have picked up. Have them put the sock into a bag.
3. In the classroom, have the students remove the seeds and other objects off the socks. What are the major things they see? (seeds, grass, twigs) Have them record their data on a chart showing what kind of seeds they found (page 19).

Explore:

4. Have the students record with pictures and words the things they found. On the board, have a tally going of the similar items that were found.
5. Ask the students how the socks compare to an animal's fur. Seeds are able to stick to an animal's fur in one place and then fall off in another. Why is having animals carrying seeds important?
6. Have the students think about which types of seeds the Salinans could have used or traded.

Optional Activity: Plant the seeds that the students found in a shoebox filled with soil. Note that some seeds will not grow and require freezing before they can germinate. Put them in the freezer for a few days.

Next Generation Science Standards:

[3-LS2-1] Construct an argument that some animals form groups that help members survive.

Adapted from:
*Project Wild, K-12 Curriculum & Activity
Guide*

Vocabulary:

Ecosystem: a biological community of interacting organisms and their physical environment

Dispersal: the action or process of distributing things or people over a wide area

Seeds: a flowering plant's unit of reproduction, capable of developing into another plant

Diversity: a range of different things; variety

What Seeds Did the Animals Find?

[illegible]

Adobe Springs Leaves (Spring Activity)

Engagement:

Have the students go outside and collect different leaves. They can collect the leaves in pairs or groups to reduce the amount of leaves taken off the trees. Make sure to tell them to get leaves that are different shapes so they will be able to complete the activity more easily.

Explore:

Once the students have collected their leaves, they will use the “Shape & Arrangement” reference (in the teacher kit) to identify the types of leaves that were found at Adobe Springs. Then the students will use page 20 to rub the leaves on the paper with a crayon. The best way to do this is to put the leaf underneath the piece of paper and take the side of the crayon and rub over the leaf.

Explain:

After the students rub a variation of leaves on their paper, have them write the type of each leaf next to their rubbing.

Visual and Performing Arts: Visual Arts Content Standards:

2.0 Creating, Performing, and Participating in the Visual Arts: Students apply artistic processes and skills, using a variety of media to communicate meaning and intent in original works of art.

2.4 Create a work of art based on the observation of objects and scenes in daily life, emphasizing value changes.

2.6 Create an original work of art emphasizing rhythm and movement, using a selected printing process.

The different shapes of leaves that the Salinans saw
at Adobe Springs are...

Basket Weaving

Engagement:

After returning from the Adobe Springs site, ask the students “What did you see on the field trip that would have provided food, clothing, and tools for the Salinan people who lived in the area? What materials could they use for basket making?” *The Native Americans used dogwood, juncus, jute, and twine.

Show pictures of baskets (page 23) while explaining how the Salinans used baskets in their everyday life.

Information: Not much is known about Salinan technique of basketry. The oldest Salinan baskets found today were made in 1884, just over one hundred years ago. Historians know that the Salinans made baskets for cooking and gathering acorns. Coiled weaving was typical and twined weave of willow and tule was used for ordinary purposes. Customary coiled baskets and trays were made in various shapes and sizes. Deep baskets were used for cooking, storing and keeping water in the houses. A group (7 or 8) of grass stems were tied together to form a foundation for the coil of the Salinan basket.

Explore:

Students are going to “Cup Weave.” This is something that the students can do with the assistance of adults. (See page 24 for directions). Students are going to learn a process of one type of weaving and recognize that they are going to be weaving an AB pattern. If it is easier, you can save time by marking and/or cutting all of the cups before you give them to the students. Once students start weaving, they will quickly catch on to this pattern.

Explain:

Have a discussion with the students about how baskets like this could help the Salinan Tribe with daily life. What could they do with these baskets? What kind of things could they collect? (hint: acorns!)

California Social Science Standard:

3.2 Students describe the American Indian nations in their local region long ago and in the recent past.

Objective:

2. Discuss the ways in which physical geography, including climate, influenced how the local Indian nations adapted to their natural environment (e.g., how they obtained food, clothing, tools).

Visual and Performing Arts: Visual Arts Content Standards:

3.0 Historical and Cultural Context: Understanding the Historical Contributions and Cultural Dimensions of the Visual Arts. Students analyze the role and development of the visual arts in past and present cultures throughout the world, noting human diversity as it relates to the visual arts and artists.

3.2 Identify artists from his or her own community, county, or state and discuss local regional art traditions.

Salinan Baskets

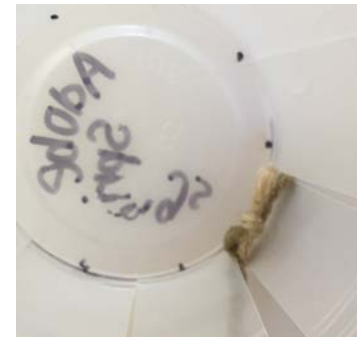


How to Make “Cup Baskets”

1. Use a 5 oz. or 9 oz. cup and put your name on it! They will start looking alike soon!
2. Put the top of your cup (where you drink out of normally) on the template and put marks on your cup where the lines are on the template. Use all nine marks. (There must be an odd number of strips in order for this weaving to work.)



3. After you make your marks, cut the cup from your mark all the way to the bottom in a straight line.
4. Then cut a piece of yarn that is the length of both of your arms outstretched.



5. Tie one end of the yarn to one of the bottom tabs. Then turn the knot you tied towards the inside of the cup. That way your knot will not show when you start weaving.



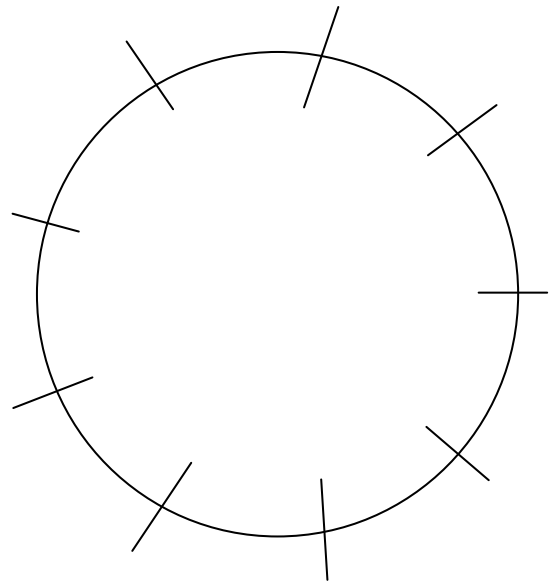
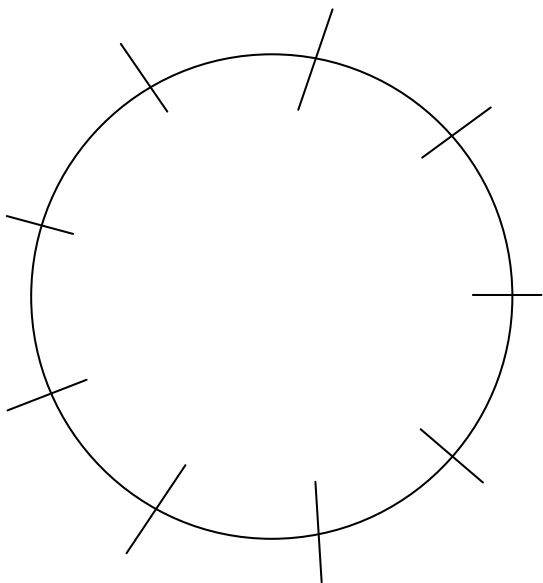
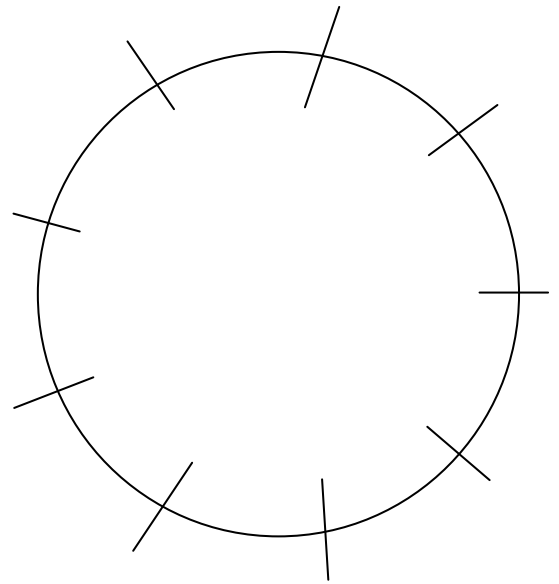
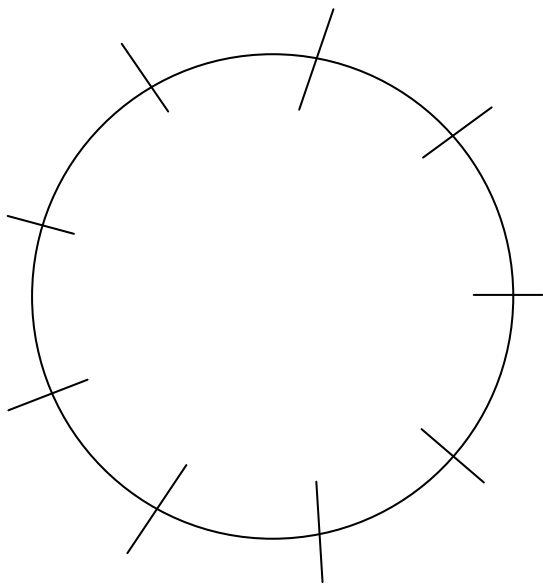
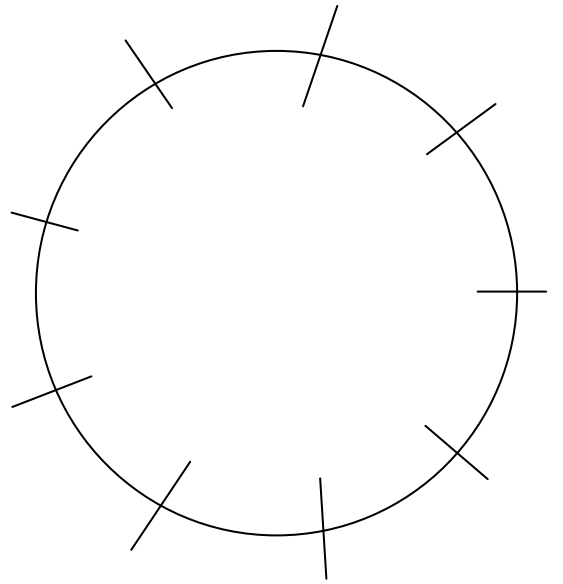
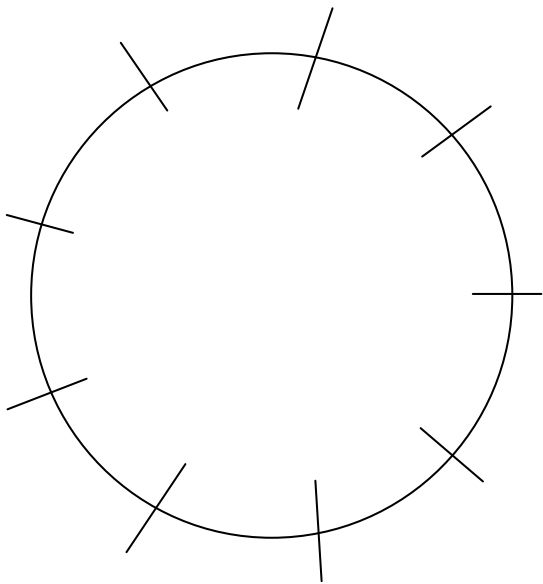
6. Now it is time to start weaving!

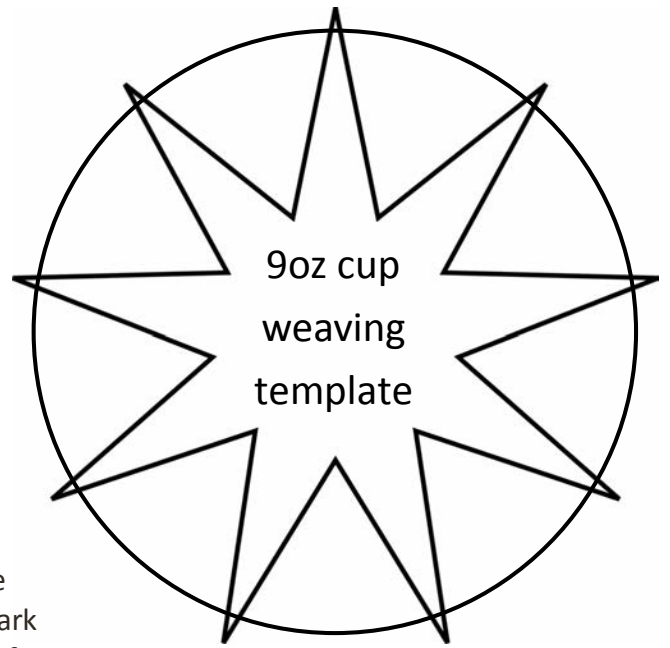
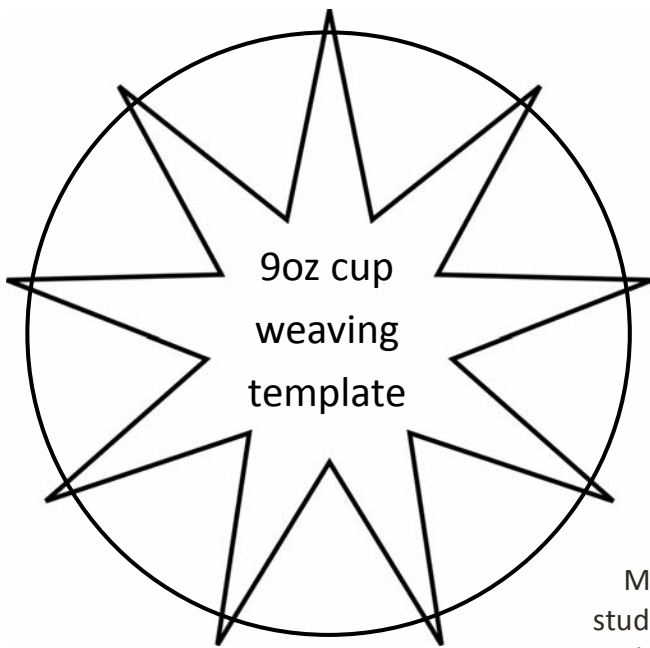
7. Take the string and place it underneath the tab next to the one you tied. The string will come out of next slot. The string will go over this tab, then under. You will continue to do this (over, under, over, under).

8. Do not leave too much space between rows. Do not tug too hard each time you weave. We don't want to break the cup or bend it out of shape.
9. When you run out of string, tie a knot from the string to the new piece of string.

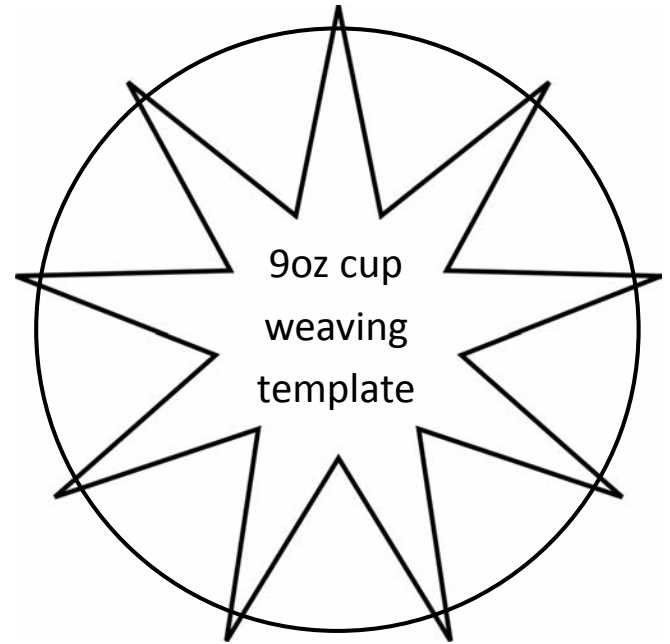
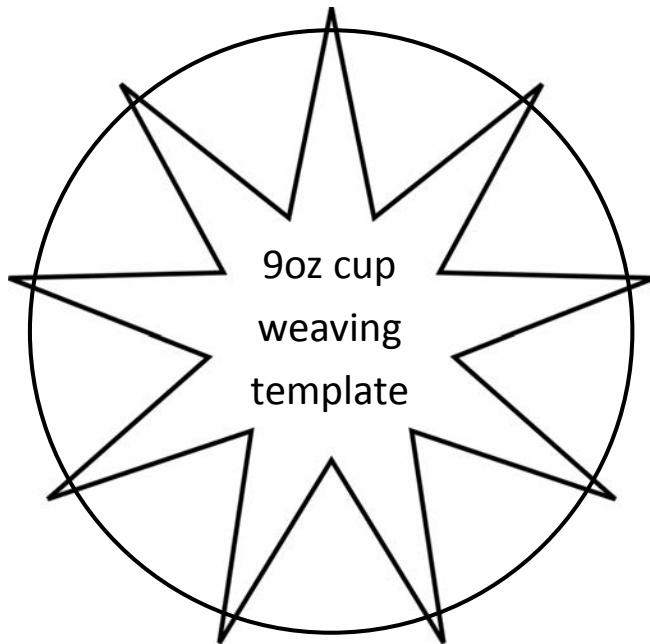
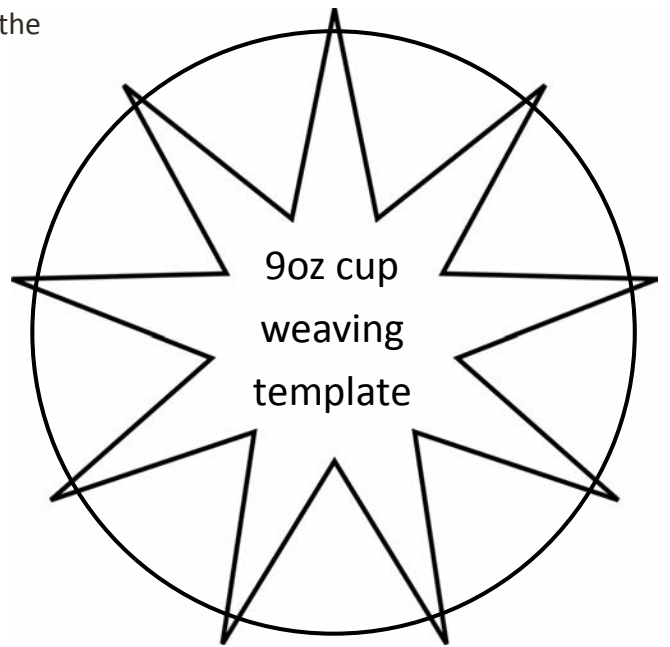
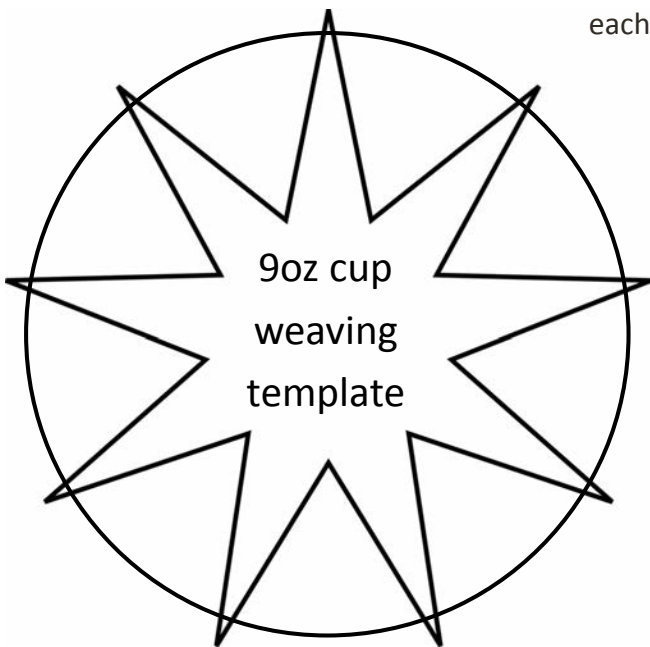


10. Keep weaving in and out until you reach the top and tie a knot at the top (make sure to put it in the inside too!) Tada! You have a basket!





Make sure the
students only mark
where the tip of
each star meets the
circle!



Anza Party

About the Anza Party

In the late 1700s, Spain worried about its control over its remote territory of Alta California.

Vast deserts separated Alta California from the frontier of New Spain, and it took five times as long for boats to sail north from Baja California to Monterey as it did to sail south.

The region was densely populated with Indians, but Spain's handful of religious and military settlements (missions and presidios) struggled in isolation.

Spain needed to establish a dependable overland route to lure more settlers to California. This route would allow for food and supplies to reach the new settlements.

One Spanish military commander decided to find this route. On October 23, 1775, Spanish Lieutenant Colonel Juan Bautista de Anza departed New Spain with a group of about 240 men, women and children. Their destination was San Francisco Bay, where they would establish a new Spanish settlement.

Anza recruited the 30 families of his expedition from the frontier regions of New Spain. They were a diverse group that reflected European, Native American, and African heritage. No group had ever attempted the long overland journey to Alta California, but these families put their trust in Juan Bautista de Anza. They wished to migrate to Alta California in search of a new way of life.

Nearly half of the group were children. In addition to Indian guides, missionaries, and support staff, the expedition included 1,000 head of livestock. The Anza Expedition was like a moving city. The people walked or rode horseback some 1,600 miles, camping as they traveled. They followed Indian trails and relied upon sources of fresh water for their survival. To cross the deserts of southern California, the expedition broke into smaller groups, digging wells into dry river beds to find enough water to survive.

The expedition encountered many Indian communities as it traveled; Juan Bautista de Anza was careful to keep friendly relationships with the Indians because he knew he would need their help to deliver the colonists safely to San Francisco.

On June 27, 1776 -- one week prior to the signing of the Declaration of Independence -- the families of the Anza Expedition arrived at San Francisco. Anza accomplished his mission, and Spain established an overland route to its colonies in Alta California.

Pre-Activities:

Read All About Me! (Anza Edition)
Dress a Paper Doll
Map Scavenger Hunt

Materials:

List of Members
Characters Cards (provided in teacher kit, link to electronic copy: <http://www.nps.gov/juba/learn/historyculture/upload/Playing-Cards.pdf>)
"Read All About Me!"

Paper Doll on Thick Paper
Art Supplies (e.g. scissors, colored pencils, yarn, etc.)

Computers/Technology
Handout of Map

Post-Activities:

A Letter to New Spain

Materials:

Journal Entry Handout

Additional Resources:

www.anzahistorictrail.org

<http://anza.uoregon.edu/resources.html>

"About the Anza Party":

http://www.nps.gov/juba/learn/education/upload/AnzaTrail_EdProg_1-Intro.pdf

<http://www.nps.gov/juba/planyourvisit/upload/11-x-17-handout-map-and-families-list-2015-low-res.pdf>

Parks Flickr Page

<https://www.flickr.com/photos/anzatrailnps/>

Read All About Me! (Anza Edition)

Engagement:

Read Anza's letter to the class (pages 29-30).

1. Imagine you were one of the indigenous Salinan people. How do you think you would react to the Anza party passing by?

Allow the students look at the list of the names and ages of the families on the Anza Expedition (pages 31-32). Then have them write down which member of the Anza party that they identify with the most (encourage the students to think about age, how many siblings, etc.).

*Recommendation: Have them write down their character the day before you start the lesson so you can organize the information (in the teacher kit) for them. The characters are organized by their father or mother, so the children are listed underneath their parents.

Explore:

Give students the character (or family) they have chosen from the teacher kit. Let them read over the description about the family. Then show the students an example of an Anza Party Member and how you would find the most important information about them.

Explain:

Give students the handout (page 34) to have them create an "All About Me!" page. The students, most likely, have been exposed to a page similar to this. Here they will explain which member they are, where they came from, where they are going and a little bit about themselves. The students should recognize that they are to write this as if they were the character and that it will be from first-person point of view. They can get creative by explaining how they are feeling, where they are excited to stop, and their fun facts about their character—let them get to know that character!

*Make sure to have your students remember or write down who their character is, so they can have that perspective when they go on the field trip! Also, this activity pairs nicely with the "Dress a Paper Doll" activity.

California Social Science Standard:

3.3 Students draw from historical and community resources to organize the sequence of local historical events and describe how each period of settlement left its mark on the land.

Objective:

1. Research the explorers who visited here, the newcomers who settled here, and the people who continue to come to the region, including their cultural and religious traditions and contributions.

Common Core ELA-Literacy

W.3.3: Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

Objective

W.3.3A: Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally.

Anza's letter to Don Antonio Maria Bucareli de Ursua, Viceroy of New Spain, to be read to students to begin this unit of study.

Most Excellent Sir

Sir,

The superior order of Your Excellency, dated the second of the present month, advised me that upon completion of the journey of my expedition to Monterey, I must deliver to Commander Don Fernando de Rivera y Moncada the soldiers and families that I took from Sonora, to the end that they take up residence at the Port of the San Francisco River, which particular I will fulfill exactly.

I will verify the same without the loss of time by going in partnership with the said commander to the aforementioned Port, to the end that the terrain will be examined, in view of which we will determine the site for the location of the fort to be erected as Your Excellency has directed me to travel.

I hold in my possession the corresponding packet of documents for Don Fernando de Rivera y Moncada, Reverend Father Junipero Serra and Father Francisco Garces, which I will deliver in person to prevent any accidental loss.

Our Lord guard the life of Your Excellency many years. New Spain, January 7, 1775.

Most Excellent Sir
Juan Bautista de Anza

Anza 's Letter-Teacher 's Key

Most Excellent Sir (common heading for letters in 1775)

Sir (This letter was sent to Antonio Maria Bucareli y Ursua, Viceroy of New Spain)

The superior order of Your Excellency, dated the second of the present month, advised me that upon completion of the journey of my expedition to Monterey (**the first Anza Expedition 1774 -1775 that discovered the trail to Alta California**), I must deliver to Commander Don Fernando de Rivera y Moncada (**Commander of Alta California Military and Governor of the Province**) the soldiers and families that I took from Sonora (**the group he was to select and recruit**), to the end that they take up residence at the Port of the San Francisco River (**at this time it was thought that the bay was the mouth of a large river**), which particular I will fulfill exactly.

I will verify the same without the loss of time by going in partnership with the said commander to the aforementioned Port, to the end that the terrain will be examined, in view of which we will determine the site for the location of the fort to be erected as Your Excellency has directed me to travel.

I hold in my possession the corresponding packet of documents for Don Fernando de Riveray Moncada, Reverend Father Junipero Serra (**he had asked for this group**) and Father Francisco Garcés (**Garcés went, but only to the Colorado River; Font was selected to go in his stead because he could use the quadrant and record latitudes**), which I will deliver in person to prevent any accidental loss.

Our Lord guard the life of Your Excellency many years. New Spain, January 7, 1775.

Juan Bautista de Anza

Colonist Families of the 1775-76 Anza Expedition

SOLDIERS AND THEIR FAMILIES

Lieutenant Moraga, José Joaquín 34

Sergeant Grijalva, Juan Pablo 33
 María Dolores Valencia 31
 María Josefa 6
 María del Carmen 5
 Manuel Claudio Salvador Álvarez (servant) 21

Aceves, Antonio Quiterio 35
 María Felician Cortés 30
 María Petra 12
 Juan Pablo 10
 José Cipriano 6
 Juan Gregorio 4
 María Gertrudis 3
 José Antonio 20

Altamirano, Justo Roberto 30
 María de Loreto Delfín 27
 José Antonio 7
 José Matías 7 mo.

Álvarez de Acevedo, Luis Joaquín 35
 María Nicolasa Ortiz 30
 Juan Francisco 12
 María Francisca 6

Alviso, Domingo 35
 María Ángela Chumacero 30
 Francisco Alviso 14
 Francisco Xavier 12
 María de Loreto 8
 Juan Ignacio 5 mo.

Amézquita, Juan Antonio 35
 Juana Gaona 30
 Salvador Manuel 14
 Manuela Rosalía Zamora (wife of Salvador Manuel) 13
 María Josefa 12
 María Dolores 8
 María Matilde 4
 María de los Reyes 3

Arellano, Manuel Ramírez 33
 María Agueda López de Haro 17
 Mariano Ramírez de Arellano 1
 Matías Vega (his adopted son) 25

Bernal, Juan Francisco 38
 Ana María Josefa Soto 35
 José Dionisio 17
 José Joaquín 15
 Juan Francisco 14
 José Apolinario 10
 Tomas Januario 7
 Ana María 5
 María Teresa 2

Bojórquez, Pedro 21
 María Francisca de Lara 18
 María Agustina 1

Bojórquez, Ramón 32
 María Francisca Romero 30
 María Gertrudis 14
 María Micaela 12
 Ignacio Anastasio de Higuera (husband of Micaela) 18

Castro, Joaquín Isidro de 43
 María Martina Botiller 40
 Ignacio Clemente 22
 Ana Josefa 18
 José Mariano 14
 Francisco Antonio 9
 María Encarnación 8
 José Joaquín 7
 Francisco 5
 María Martina 4
 Carlos Antonio 6 mo.

Félix, Vicente 34
 María Ignacia Manuela Piñuelas (died during the expedition) 31
 José Francisco 12
 José Doroteo 10
 María de Loreto 8
 María Antonia 6
 María Manuela 4
 José de Jesus 2
 José Antonio Capistrano (born during the expedition)

Gallegos, Carlos 34
 María Josefa Espinosa 17

García, José Antonio 42
 Petronila Josefa Acuna 28
 José Vicente 12
 José Francisco 9
 María Graciana 7
 Juan Guillermo 5
 María Josefa 3

Gutiérrez, Ignacio María 30
 Ana María de Osuna 25
 María de los Santos 8
 María Petra 7
 Diego Pascual (born during the expedition)

Linares, Ignacio 30
 Gertrudis Rivas 22
 María Gertrudis 7
 José Ramón 4
 María Juliana 3
 Salvador Ignacio (born during the expedition)

López, Sebastián Antonio	47
Felipa Neri	45
María Tomasa	20
Sebastián Antonio	17
María Justa	5

Mesa, Valerio	33
María Leonor Borboa	30
José Joaquín	13
José Ignacio	12
José Dolores	9
María Manuela	8
José Antonio	7
Juan	5

Pacheco, Juan Salvia	46
María Carmen del Valle	40
Miguel	25
Francisco	15
María Gertrudis	13
Bartolomé	10
Bárbara	8

Peralta, Gabriel de	40
Francisca Manuela Valenzuela	33
Juan José	18
Luis María	16
Pedro Regalado	15
María Gertrudis	9

Pico, Santiago de la Cruz	38
María Jacinta Bastida	26
José María	7
José Dolores	6
Francisco Javier	5
José Miguel	4
José Patricio	3
María Antonia Tomasa	2
María Josefa (relative)	15

Pinto, Pablo	43
Francisca Javiera Ruelas	40
Juan María	16
Juana Santos	16
Casimiro Varela	27
(husband of Juana Santos)	
José Marcelo	14
Juana	12

Sánchez, José Antonio de	29
María Dolores Morales	26
María Josefa	3
José Antonio	2
Ignacio Cárdenas	

Sotelo, José Antonio	29
Gertrudis Peralta	25
Juan Antonio	12
Ramón	5

Soto, Ignacio de	27
María Bárbara de Espinosa	18
Simón Antonio de Soto	14
José Antonio	2
María Francisca	1

Tapia, Felipe Santiago	39
Juana María Cárdenas	23
María Rosa	13
María Antonia	12
José Bartolomé	11
Juan José	9
José Cristóbal	8
José Francisco	7
María Manuela	6
María Isidora	5
José Victor	6 mo.

Valencia, José Manuel	36
María de la Luz Muñoz	30
María Gertrudis	7
Francisco María	5
Ignacio María	2

Valenzuela, Agustín de	30
Petra Ignacia de Ochoa	20
María Ceferina	3

Vázquez, Juan Atanasio	40
María Gertrudis Castelo	25
José Antonio	8
Pedro José	7
José Tiburcio (relative)	20
María Antonia Bojórquez	
(wife of José Tiburcio)	

NON-MILITARY FAMILIES ON THE EXPEDITION*

Arballo, Feliciano (widow)	25
María Tomasa Gutiérrez	4
María Eustaquia	1 mo.

Berreyesa, María Isabel	18
Nicolás Antonio	15
(siblings)	

Galindo, Nicolás	33
María Teresa Pinto	18
Juan Venancio	5 mo.

González, José Manuel	35
María Micaela Ruiz	28
María Gregoria	15
Juan José	14
María Ana	8
Ramón	6
Francisco	1

Sandoval, Gregorio Antonio	30
María Dolores Ontiveros	19

*Does not include mulateers, cowboys, guides, translators, and other expedition members.

Read All About Me! (Anza Edition)

Hi! My name is

and I am _____ years old.

I am from

and we are on our way to

_____.

We are going to help Juan Bautista de Anza find fresh water _____

_____.

I am excited to stop in _____

_____ because

_____.

About My Family

These are my family members:

○

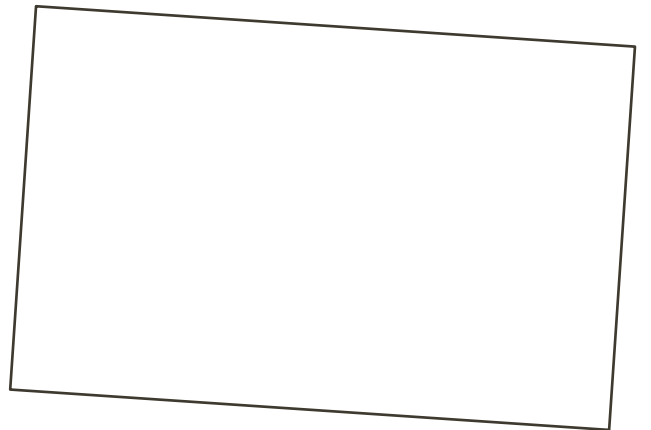
○

○

○

○

○



I am feeling _____

_____ because

_____.

Here's a fun fact about me:

Dress a Paper Doll

Engagement:

Engage the students in a discussion on what they learned from the fieldtrip. What kind of things would their character (from the previous activity; if you did not complete the last activity, have the students see the list of members of the Anza Party and choose one to dress for this activity) have seen on the Adobe Springs Trail during their Anza Expedition? What kind of weather did they experience when they were here? Is it similar to the weather we had on the field trip?

Explore:

Students should gain an understanding that there are patterns in the weather and because of this we can make inferences to what the weather was when they were here (late February/early March). If they were experiencing rainy and cold weather, what kinds of clothes did they wear on this journey? Was it their nice clothes or not? Provide some pictures (pages 35-36) of the Anza Party members so they can visually see what the members looked like.

Clothing for men: capes, blankets, huaraches (sandals), boots, hats

Clothing for women: chemises (blouses), petticoats, jackets, rebozos (shawls), ribbons

Clothing for children: material for mothers to make into items needed, hats, shoes, ribbons, blankets (fine and coarse)

The students will then create a doll to accompany the description that they wrote up in the “Read All About Me! (Anza Edition)” Activity. Give each student a paper doll template (page 37) to trace and cut out, and art supplies to dress their doll based off of the discussion. (Optional: The students can create a background of the Adobe Springs site to glue their doll on)

You can have the students can draw and color their character as your read the story found on page 38.

Explain:

The students’ artwork should speak for itself! The outfits (and background if you wish) should reflect what the students have learned and observed from the site.

California Social Science Standard:

3.3 Students draw from historical and community resources to organize the sequence of local historical events and describe how each period of settlement left its mark on the land.

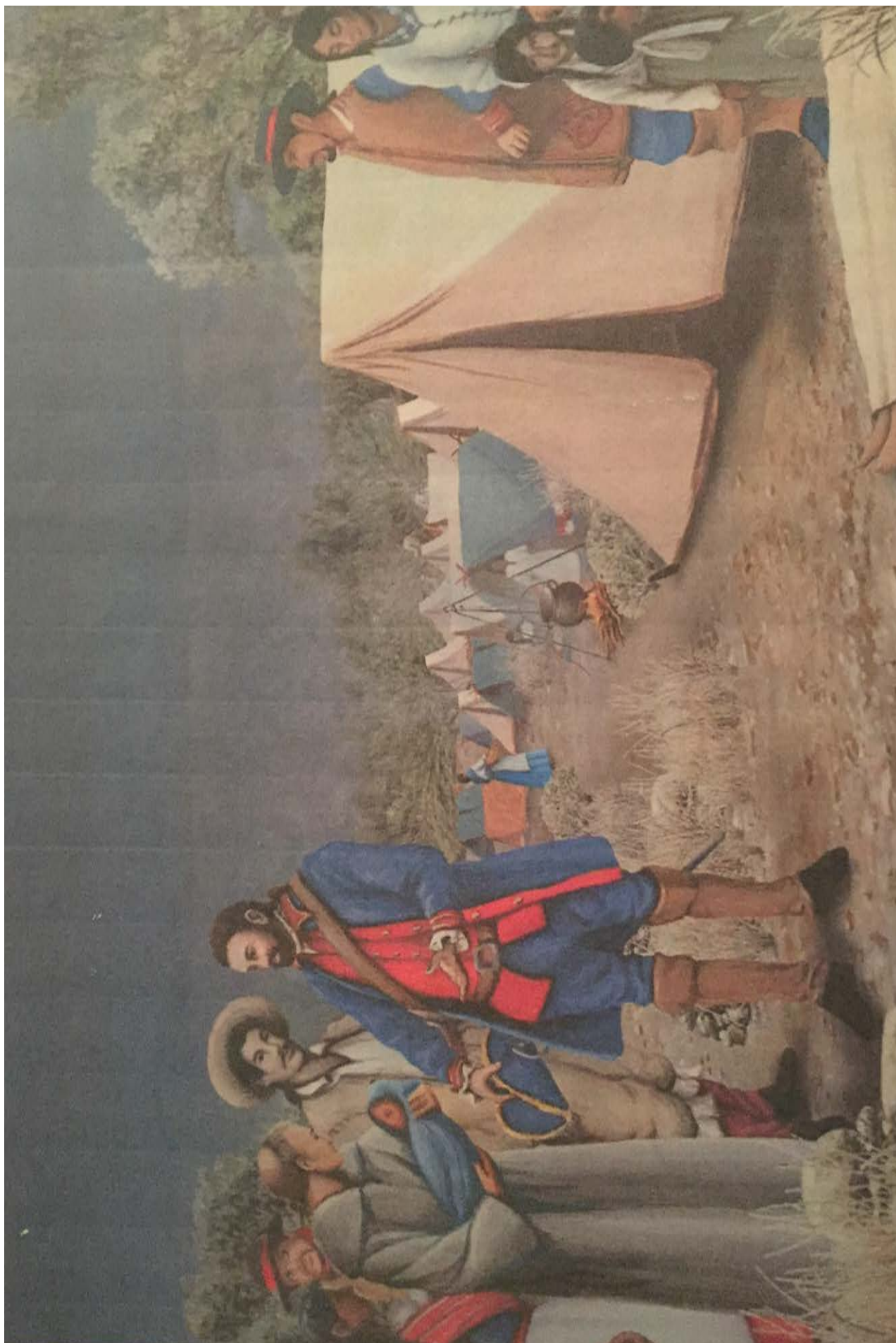
Objective:

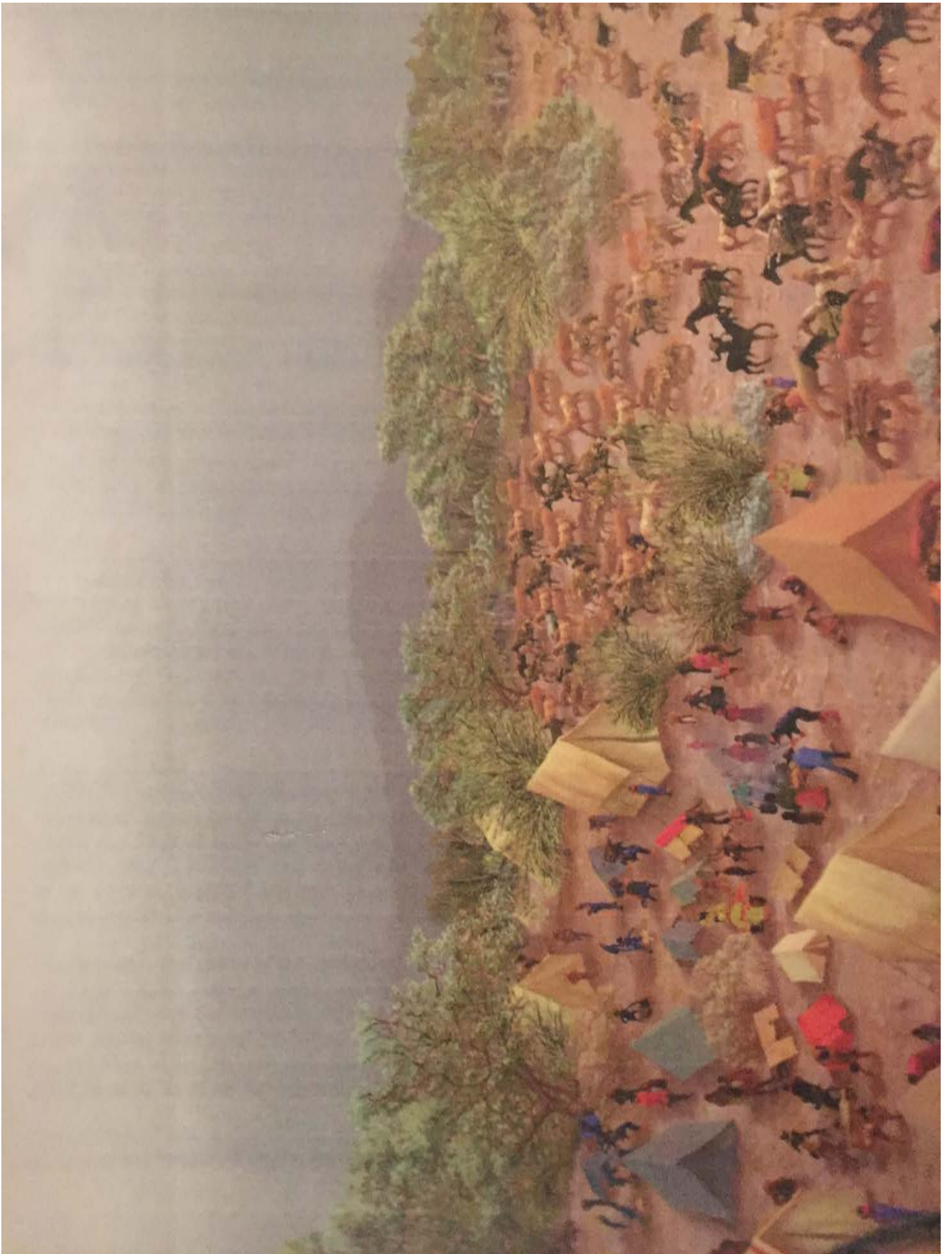
1. Research the explorers who visited here, the newcomers who settled here, and the people who continue to come to the region, including their cultural and religious traditions and contributions.

Visual and Performing Arts: Visual Arts Content Standards:

2.0 Creative Expression: Creating, Performing, and Participating in the Visual Arts: Students apply artistic processes and skills, using a variety of media to communicate meaning and intent in original works of art.

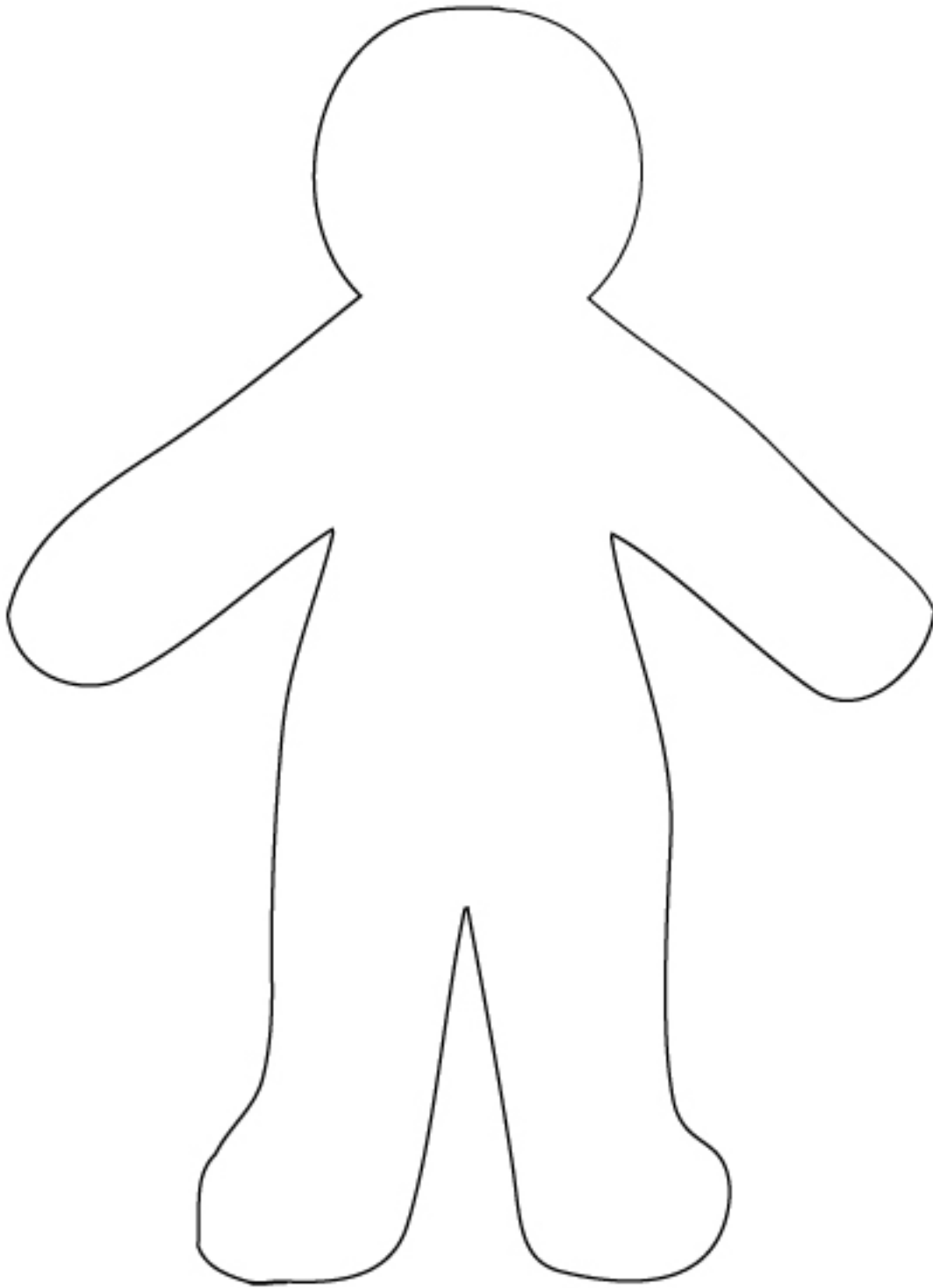
- 2.4** Create a work of art based on the observation of objects and scenes in daily life, emphasizing value changes.





Paper Doll Template

Print this on cardstock and cut it out. Then trace the doll template to be cut out by the students.



Daily Travel

Each day we follow a routine while we are traveling. First we get up and dress. Then we go to Mass. After Mass we eat our breakfast of atole (gruel of ground corn) and chocolate. Our tent and provisions must be packed on the mules, but of course the muleteers must be able to gather the mules first. Many nights the mules have strayed while grazing and they must be led back to the campsite.

If all is ready the commander tells us to start. Some of us walk instead of riding on horseback. If the weather has been cold it feels better to walk anyway. As we start along we all sing the “Alabado.” We have brought along snacks to eat if we get hungry. We will not stop to eat until we reach this night’s new campsite. The new site should have good water and grass for the animals to graze on. Once a good place has been found the mules and horses must be unpacked and the tents set up. Dinner is prepared for we are all hungry. If no meat has been found to shoot along the trail we may kill one of the beef cattle for dinner to put in our sopa (a stew of beans and meat) which we eat with tortillas. If it has been a short travel day Father Font may play his instrument for us to enjoy. Usually we are so tired at the end of the day that after dinner we go right to bed.

Some days if water was scarce we will travel hard all day and then the next morning we will hurry to the next good waterhole. Capt. Anza will then let us stop early so we can rest.

The next day will be like before. There will be new sights to see and new problems to solve during the many leagues we travel. Then we will do it all again until we finally get to Monterey.

Map Scavenger Hunt

Engagement:

Show students a map of North America and explain to the students that the goal of the Anza Party was to establish a route from New Spain (present day Mexico) to Alta California (where present day San Francisco is) in order to establish a mission. Ask the students how a map helps you locate places?

Why would Anza want to provide a route to there?

- It took boats a long time (up to five times as long) to sail from Baja California to Monterey due to the prevailing winds and currents.
- They needed a dependable route that would allow people to bring food and supplies to reach the new settlements from the farms of northern Mexico.

Explore:

Either individually or in pairs, have the students go to <http://www.anzahistorictrail.org/visit/explorer>. This website has an interactive map of all of the camps where the Anza Party stopped. At the bottom there is a timeline that shows where they started on September 28, 1775 in New Spain. It goes through April 8, 1776 when the party was in Monterey.

Explain:

Through the worksheet and coloring on the map of the trail the students should be able to demonstrate basic knowledge of where the trail is and important information and details provided by the questions (page 41-42). A key is provided on page 43.

California Social Science Standard:

3.1 Students describe the physical and human geography and use maps, tables, graphs, photographs, and charts to organize people, places, and environments in a spatial context.

AUSD Technology Standards:

RI.5 Investigative: Use text features and search tools (key words, sidebars, hyperlinks) to locate information efficiently.



THE ANZA EXPEDITION 1775-1776

In 1776, while American patriots fought for their independence from England, Spanish Lt. Colonel Juan Bautista de Anza led more than 240 men, women, and children some 1,800 miles to establish a settlement at San Francisco Bay.

These families were the first colonists to come overland across the frontier of New Spain into present-day California.

Al mismo tiempo que en 1776 los patriotas angloamericanos iniciaban la lucha por su independencia de Inglaterra, el teniente coronel español Juan Bautista de Anza condujo a unas 240 colonos más de 2900 kilómetros para establecerse en Alta California.

Era la primera vez que se utilizaba la ruta terrestre de Nueva España para traer pobladores, en este caso los que habían de establecer el pueblo de San Francisco.

www.nps.gov/juba | www.anzahistorictrail.org | @AnzaTrailNPS



The Anza Expedition Scavenger Hunt

Directions: Using the Internet, type into the address bar this website:
<http://www.anzahistorictrail.org/visit/explorer>

1. What day did the Anza Party start their journey (Camp #0)?

2. _____

Outline on the map the Anza Trail in California (on the other side).

3. Where was the Anza Party on March 2, 1776?

4. Put a star where Atascadero (La Assumpcion) is on the map (on the back of this page) and label it Atascadero.

5. What day was the Anza Tribe in Atascadero (La Assumpcion)?

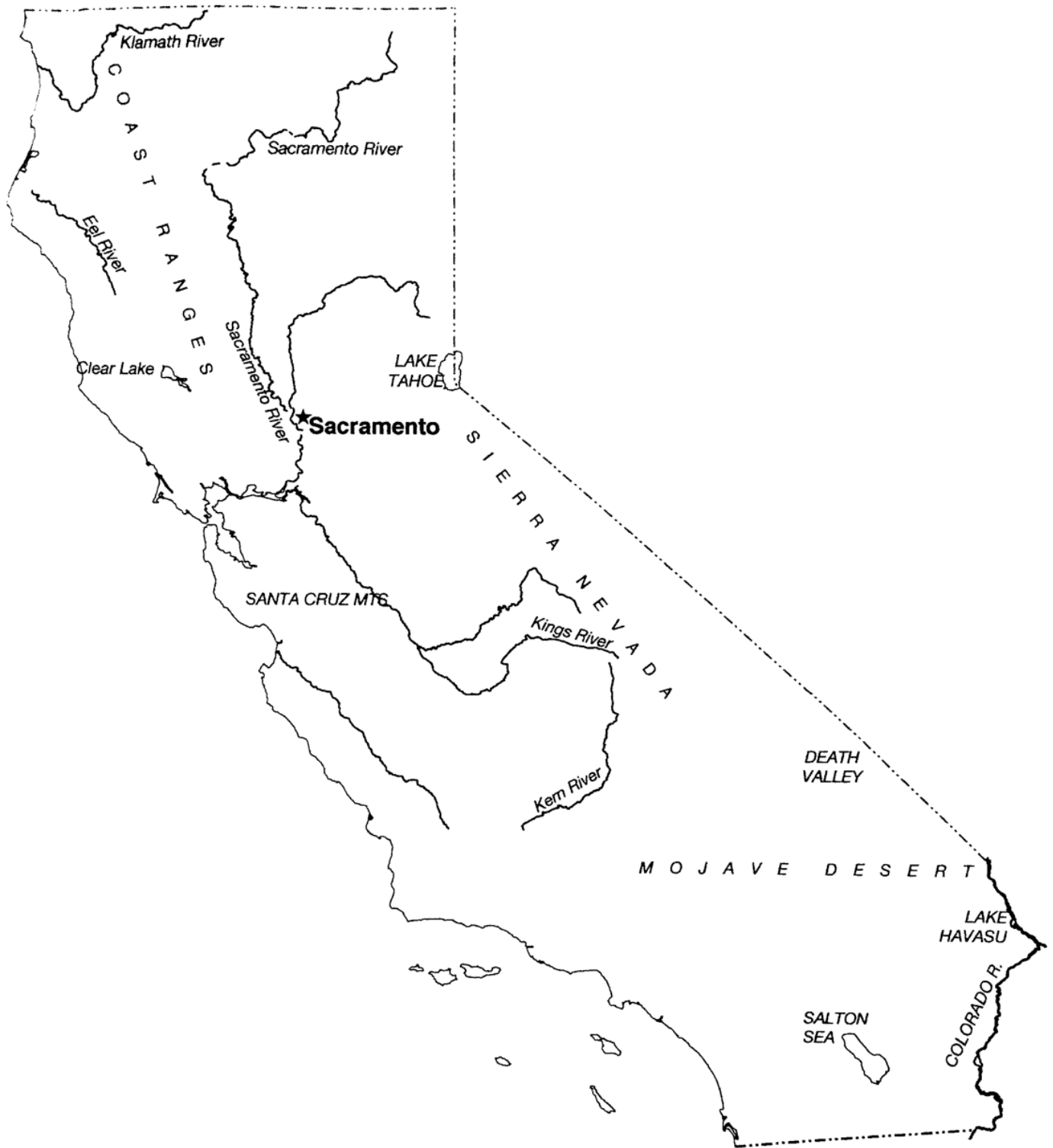
6. _____

On March 27, 1776, de Anza reached his final destination (Camp #95).

Where was this?

7. _____

Put a different colored star on the map and label it: Final Destination.



CALIFORNIA

The Anza Expedition Scavenger Hunt (KEY)

Directions: Using the Internet, type into the address bar this website:
<http://www.anzahistorictrail.org/visit/explorer>

1. What day did the Anza Party start their journey (Camp #0)?

September 28, 1775

2. Outline on the map the Anza Trail in California (on the other side).
3. Where was the Anza Party on March 2, 1776?

Mission San Luis Obispo

4. Put a star where Atascadero (La Assumpcion) is on the map and label it Atascadero.
5. What day was the Anza Tribe in Atascadero (La Assumpcion)?

March 4, 1776

6. On March 27, 1776, de Anza reached his final destination (Camp #95).
Where was this?

San Francisco

7. Put a different colored star on the map and label it: Final Destination.

A Letter to New Spain

Engagement:

Have a class discussion with the students about the different parts of a friendly are. On the board, outline how a letter looks with lines. Talk about the different parts:

- Heading: Where it is going, the date it was written
- Greeting: “Dear _____,” followed by the recipient’s name and a comma
- Body: The main message of the letter
- Closing: This is where you tell who wrote the letter; (e.g. from, sincerely, and love, followed by a comma)
- Signature: where the person writing the letter signs their name

Explore:

Journal Entry Prompt: As your character, write a letter to a friend back “home” in New Spain. What did you see on the trail today? What hardships did your character encounter? After the hardships of the desert how would you have reacted to camping in Atascadero in March, only days away from your final destination? How did your character feel when they interacted with the Salinan Indians? Did you learn any new words that you did not know before and want to tell your friend?

Explain:

The students should be able to demonstrate what they have learned on the fieldtrip through writing a letter as their character (from previous activities) to a friend who lives where they came from. They should include the things that they saw and learned on the fieldtrip. Additionally, students should gain an understanding on how to write a friendly letter.

California Social Science Standard:

3.2 Students describe the American Indian nations in their local region long ago and in the recent past.

Objective:

4. Discuss the interaction of new settlers with the already established Indians of the region.

Common Core ELA—Literacy:

Text Types and Purposes (W.3.2): Write information/explanatory texts to examine a topic and convey ideas and information clearly.

New Spain

July 1776

Dear _____,

San Francisco, Alta California

Estrada Adobe

About the Estrada Adobe

The Estrada Adobe may be the first adobe structure in Atascadero. The Adobe was built around 1812 by “neophytes,” or Tulare Indians. The purpose of the building was to store grain and tools, and provide living quarters for the workers of Mission San Miguel. The location of the Estrada Adobe was near the pure water spring we call “Adobe Springs,” and an old stagecoach road.

Pedro Estrada did not live in the building until 1860. At this time, the adobe structure’s roof and upper part of the walls were deteriorating and badly in need of repair. Estrada had the Indians remove the top portion of the crumbling walls down to a single story in order to increase the strength of the adobe structure.

In 1888, the Southern Pacific Railroad laid tracks within 100 feet of the Estrada Adobe. The stretch (portion) of the railroad, which would eventually go through Santa Margarita and over the Cuesta Grade into San Luis Obispo, was completed in 1894.

Pedro Estrada lived in the Estrada Adobe until his death on January 30, 1897. Atascadero’s founder, E. G. Lewis purchased the Henry Ranch property with the Estrada Adobe. Delia Holden purchased the Estrada Adobe in about 1917. The Estrada Adobe continued to be used by railroad workers and transients. Before World War II, Mrs. Holden sold the Estrada Adobe to James McCloskey. After losing his son in WWII, Mr. McCloskey leased the property to Walter Goodell, who ran a dairy on the site. In 1947, Bud and Bea Davis bought all of the “Estrada” land and continued to operate the dairy. The following year, Mr. Davis took down the roof tiles to prevent children from playing inside the building. Without the protection of a roof, the adobe was exposed to the elements and slowly deteriorated. Since adobe can withstand almost any conditions except water, it began to slip (dissolve), eventually leaving just one wall.

Today, the only remnants of the Estrada Adobe are various pieces of adobe rubble. The spring is still active, with the water flowing naturally under a paved roadway to a lake in a residential community.

Pre-Activities:

Experts About Estrada Adobe

Materials:

Handouts
Whiteboards

Post-Activities:

Make an Adobe Brick
How Large was the Estrada Adobe?

Materials:

Soil
Water
Milk Containers
Small Paper Cups
Sticks/unsharpened pencils

Handouts
Measuring Tool (tape measure/yardstick)
String & Tape OR Chalk

Experts About Estrada Adobe

Engagement:

Before you start the activity show the students pictures of the Estrada Adobe (pages 47-49). What kind of things can they observe by looking at the pictures?

On the board, write down the four different groups:

1. Why was the Estrada Adobe built?
2. How was it built?
3. Who lived there?
4. What happened to the Adobe?

Break students up into four groups and give each member of the group an information sheet (pages 50-53) that explains different aspects of the Estrada Adobe. Choose a one topic to demonstrate to the class how to find the main idea and details. Ask the students to think about why the main idea is important.

Explore:

Each group is going to become an expert on this topic. For each group, have the students divide up the jobs in order to assure equal participation. These jobs can include facilitator, secretary (to write down the most important details), the speaker, and the artist. All of the students should be required to read and participate in the group discussion to decide on the most important information.

Explain:

Each group will present to the class what they have learned about their topic. The students will hold up their whiteboard (or large paper) of an illustration that demonstrates what they have learned. The speaker will explain to the class the main points of what they have learned about their topic.

California Social Science Standard:

3.3 Students draw from historical and community resources to organize the sequence of local historical events and describe how each period of settlement left its mark on the land.

Objective:

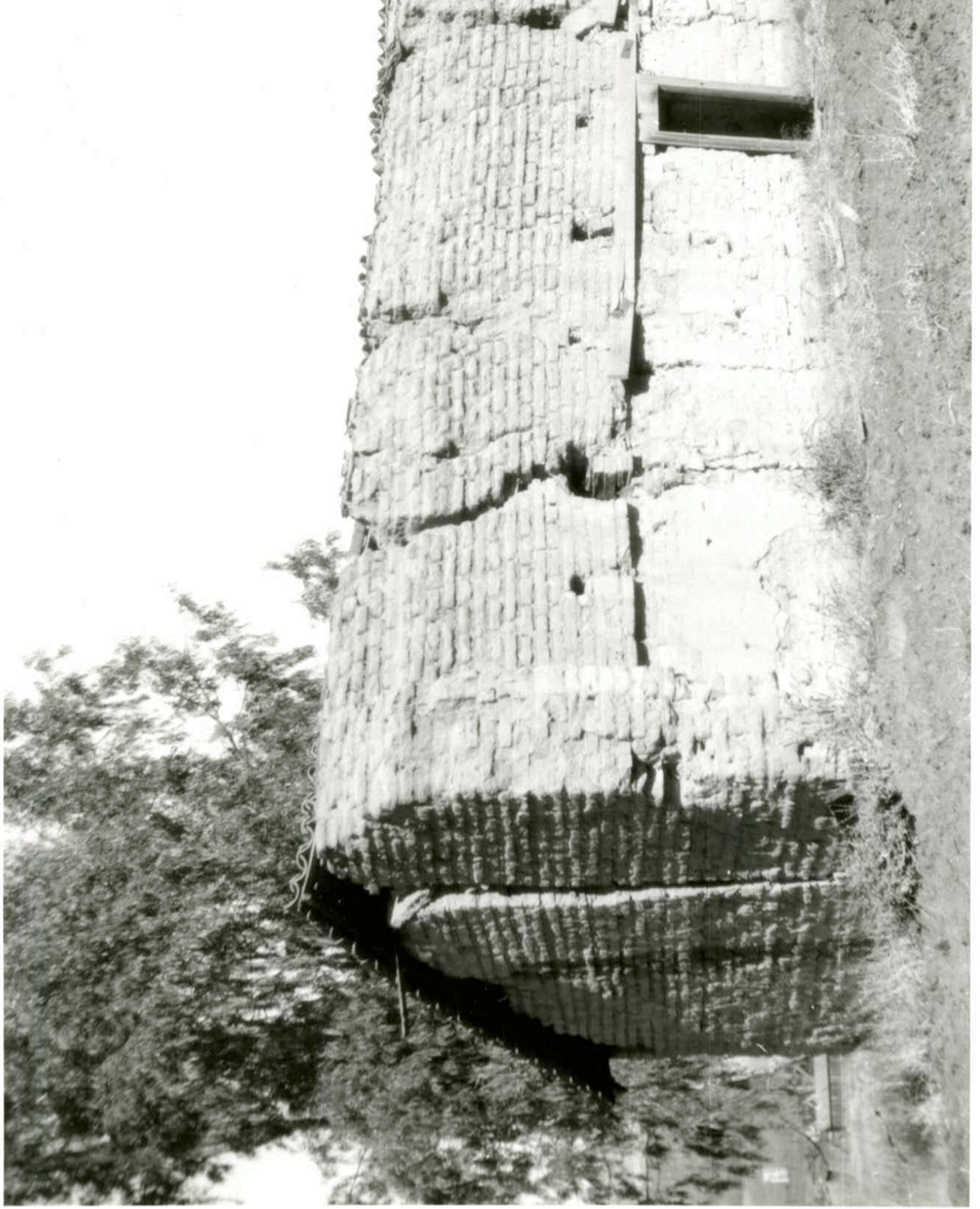
2. Research the explorers who visited here, the newcomers who settled here, and the people who continue to come to the region, including their cultural and religious traditions and contributions.

Common Core ELA—Literacy:

RI.3.2: Determine the main idea of a text; recount the key details and explain how they support the main idea.



Atascadero Historical Society





Expert 1: Why was the Estrada Adobe built?

The Estrada Adobe was built in 1812 and may have been the first adobe building in Atascadero. This was a good location for the adobe because on the hillside above it there is a natural spring and it is close to El Camino Real. Pedro Estrada was given ownership of a Mexican land grant known as Rancho Atascadero. The purpose of the Estrada Adobe was to store animal feed and equipment on the first floor and provide shelter for the Native American shepherders on the second floor. Many people who were traveling along El Camino Real stopped here to get fresh water from the spring. It provided shelter for some of the railroad workers too.

Questions:

1. Why was the Estrada Adobe an important building?
2. What was near the location of the adobe that made them choose that location?
3. What did the Estrada Adobe store for Mission San Miguel?



Expert 2: How was the Estrada Adobe built?

The Estrada Adobe was built by the Yokut (Tulare) and Salinan Indians who were under the control of the Franciscans at Mission San Miguel. They used several adobe bricks in order to build the Estrada Adobe. To make these adobe bricks, they used clay-rich mud, straw, animal manure and sand. They mixed these ingredients together in a pit until they got a good consistency and shoveled them in molds. The Yokut and Salinan Indians put several hundred of these molds in the sun to let them dry. Each brick was made by hand and had to dry 30 “sunny days” before they could be used to build the structure! The Estrada Adobe was 16 feet by 20 feet and was two stories high. The adobe walls were four inches thick, so the inside was a little bit smaller.

Questions:

1. What were the materials the Yokut and Salinan Indians used to make the adobe bricks?
2. What did they put the mixture in to hold the bricks?
3. How long did the bricks have to be in the sun before they were dry and they could build the structure?

**Building an
adobe wall**



Expert 3: Who lived in the Estrada Adobe?

Many different people lived at the Estrada Adobe. When it was first built, it was to provide a place to live for the people working at San Miguel Mission. Pedro Estrada owned the land that the Estrada Adobe was on. He finally lived in the adobe structure 48 years after the Yokut and Salinan Indians had built it. A family lived in the adobe in the 1920s for two years. The man who founded Atascadero, E. G. Lewis, purchased the land that the Estrada Adobe was on. When he purchased this piece of land, the Estrada Adobe had been abandoned for a long time. People still used it sometimes for many years. These people were workers from the railroad and people who were passing through Atascadero. Many other people would buy the land that the Estrada Adobe was on, but they would not live in this building.

Questions:

1. Who were the first people who lived in the Adobe?
2. Who was the person who owned the Estrada Adobe and when did he move into it?
3. Who were the people who used it when the Adobe was abandoned?



This is how the Estrada Adobe looked in the early 1940s. E.G. Lewis bought the 23,000-acre cattle ranch from J.H. Henry. The adobe stood on Traffic Way, about two miles east of El Camino Real.

Expert 4: What happened to the Estrada Adobe?

When the owner of the Estrada Adobe, Pedro Estrada, moved into the adobe he noticed that the top of the walls and the roof were in terrible condition. He had the Yokut and Salinan Indians (who built the Estrada Adobe) take down the top of the walls and make it into a one-story building to make the walls stronger. A man named Walter Goodell started a dairy on the site. Then a man named Bud Davis bought the land where the Estrada Adobe stood. He took the roof tiles off of the adobe in order to stop children from playing in the old building. Since the walls of the adobe were now exposed to the rain, it began to fall back into the ground. Adobe bricks can withstand almost every condition except for water. In 1978, Bud Davis decided to knock over the remaining wall because he was tired of people telling him to save the historic old adobe.

Questions:

1. What was the first thing Pedro Estrada had the Yokut and Salinan Indians change about the Adobe?
2. Why did Bud Davis take the roof tiles off the building?
3. Why is the Adobe no longer standing?



In the 1960s the adobe continued to fall into disrepair. With its roof timbers removed, the adobe was vulnerable to rainfall. Here portions of two corners of the building still stand. You can see a door or window frame against one wall.

Make an Adobe Brick

Engagement:

Engage the students into a discussion about what types of materials the Indians used to make the Estrada Adobe. Provide pictures (pages 48-50) for students to see and then ask them what materials could have been used. Write down their predictions on the board.

- Adobe buildings are constructed using adobe bricks, made by mixing clay-rich mud, straw, animal manure and a bit of sand. This mixture is then placed in molds to dry and bake in the sun. The Spanish introduced the Adobe construction in 1769. This was also what the presidio, pueblo, and missions were made of!
- Explain that they are going to use soil and water to make their own adobe brick.

Explore:

Process #1 Test the Soil: Students will begin to build their adobe brick by testing the soil. The students should observe that overnight the soil has separated into rows of sand on the bottom and clay on the top. The ratio of sand to clay should be about 70% sand to 30% clay (you can have the sand at least 50%).

Process #2 Making the Adobe Brick: Students get to mix the materials (2 parts soil and 1 part water) into bowls, buckets, or Styrofoam trays. Give students the option to mix the mixture with their hands or large craft sticks in order to get a consistency like wet play-dough. Have them alter the mixture by adding more dirt or water in order to get the right consistency. Then pat the mixture into the mold (milk carton containers). Then place the molds in a sunny or warm place to dry (Directions on page 56).

*Make sure to have the students' names on the milk carton containers so they know which one is theirs!

Explain:

After the students get their brick back, have them explore it. What kind of things do they notice about it? Does their brick seem to be losing soil or is it staying in its form? What could have caused it to be losing soil? (too much water, not enough water, etc.)

Next Generation Science Standards—Disciplinary Core Ideas:

[ETS1.A: Defining and Delimiting Engineering Problems]

- Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account. (3-5-ETS1-1)

[ETS1.B: Developing Possible Solutions]

- Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions. (3-5-ETS1-2)
- At whatever stage, communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs. (3-5-ETS1-2)
- Tests are often designed to identify failure points or difficulties, which suggest the elements of the design that need to be improved. (3-5-ETS1-3)

How to Make Adobe Bricks!

Materials:

- Soil
- Water
- Bowl, bucket, or Styrofoam tray
- Stick, pencil, or hands to stir
- Milk cartons

Directions:

1. Put the soil in the bowl.
 2. Add water into the bowl.
 3. Stir the soil and water with a stick.
 4. Squeeze the mixture to see if it feels like play-dough.
 5. IF NEEDED, add more dirt if your mixture is too watery or more water if your mixture is too chunky.
 6. Pat your mixture into the mold.
 7. Place your mold into a warm place until your brick dries.
 8. Once your brick dries, cut the milk carton mold away from the brick.
-

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6. Pat your mixture into the mold.
7. Place your mold into a warm place until your brick dries.
8. Once your brick dries, cut the milk carton mold away from the brick.

How Large was the Estrada Adobe?

Engagement:

Have your students lay out the floor plan of the Estrada Adobe to demonstrate the actual size of the structure using string and tape (inside) or chalk (outside). It was 16 feet by 20 feet.

*Remind the students that it was a two story San Miguel Mission outpost structure. Animal feed and equipment were stored on the first level and the Native American shepherders lived on the second story. The adobe walls were four inches thick, making the inside of the structure just a little bit smaller.

Explore:

Students will then determine the perimeter and area of the Estrada Adobe by relating it to a real life problem that the Native Americans could have used to build it. Have the students explore the process to figure out the perimeter and the area of the Estrada Adobe (page 7).

Answers: Perimeter= $16+16+20+20=72$ feet

Area= $16 \times 20 \times 2 = 640$ sq. feet

Explain:

Students should be able to demonstrate knowledge of the dimensions of the Estrada Adobe by figuring out the perimeter and the area on the worksheet. Ask students how this information could have been beneficial for the Yokut and Salinan Indians who built the Estrada Adobe.

CA Common Core Mathematics:

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

3.MD.6: Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

3.MD.7: Relate area to the operations of multiplication and addition.

3.MD.7.A: Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

Geometric measurement: recognize perimeter.

3.MD.8: Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Vocabulary:

Area: the number of square units needed to cover a surface like a wall, floor, or two-dimensional shape

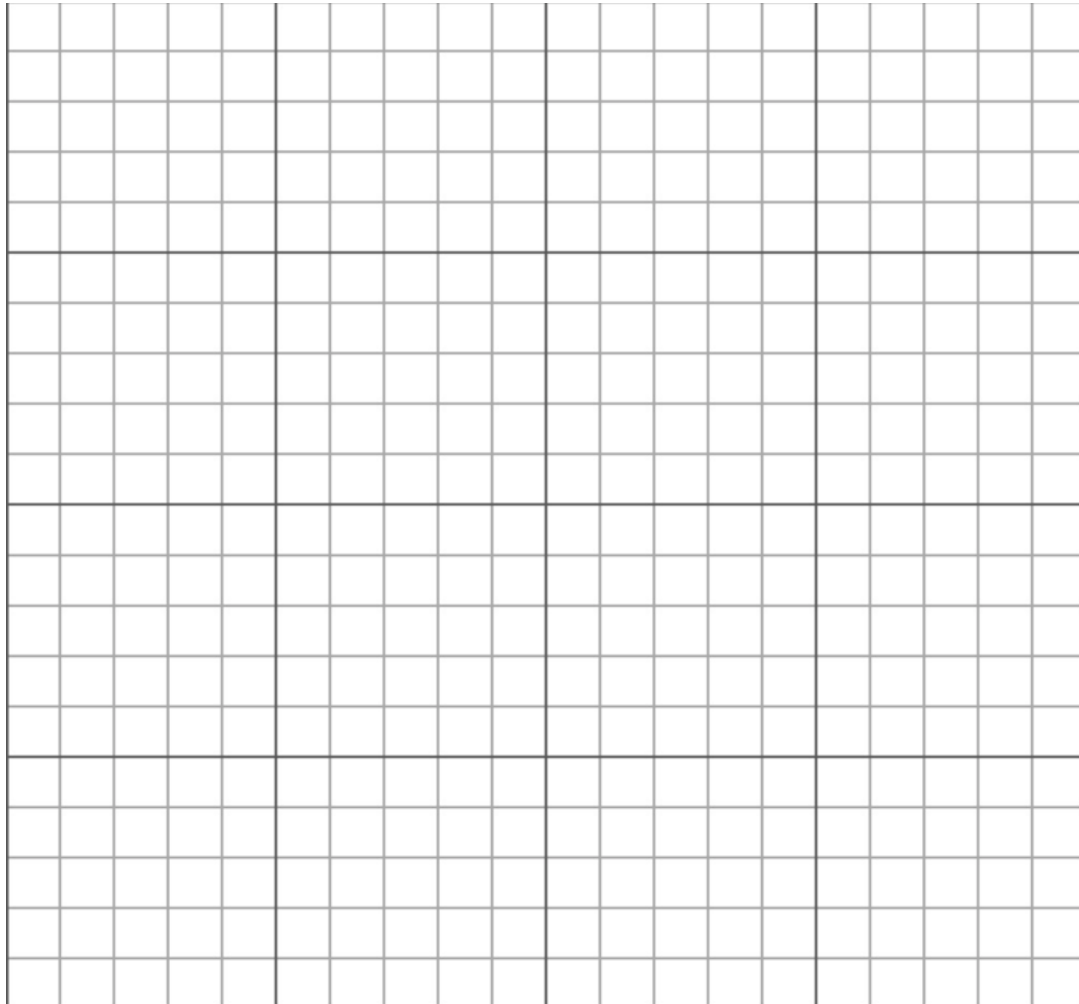
Length: the distance from one end to the other end of an object

Perimeter: the distance around the outside of a shape or figure

Width: the distance (length) from side to side

How Large was the Estrada Adobe?

1. The Yokut and Salinan Indians who built the Estrada Adobe need your help! They want you to create a scale drawing on the grid below so they can recreate the Adobe. They know that the Estrada Adobe was 16 feet by 20 feet. Outline the perimeter of the Adobe below.



length (feet)

The Dimensions of the Estrada Adobe: _____ by _____

2. The Yokut and Salinan Indians need to know how many feet of bricks they need to have to make it. Find the perimeter of the Estrada Adobe.

2 lengths + 2 widths = Perimeter

_____ + _____ + _____ + _____ = _____ feet

3. The Spanish want to know how big the inside of the adobe is. To help them, find the area of the Estrada Adobe (remember, it was 2 stories tall).

length x width x 2 floors = Area

_____ x _____ x 2 = _____ feet²

Flora & Fauna

About Flora & Fauna:

Flora describes all of the plant life within the area. The most common plants that are found in Adobe Springs all year round are:

- Clover
- Lace Lichen, Spanish Moss
- Coyote Brush
- Red osier dogwood
- Slender willow herb
- Seaside heliotrope
- Southern California black walnut
- Juncus, Rush
- California Sycamore
- Coastal live oak
- Valley Oak
- Polished willow
- Poison oak
- Narrow leaf cattail

In the spring the plants that show the most are:

- Common Fiddleneck
- Miner's
- Cleavers
- California man-root
- Watercress
- California Blackberry

Fauna describes all of the animal life within the area. The most common animals and birds that are found in Adobe Springs:

- California Mule Deer
- Gopher
- Raccoon
- Fox
- California Quail
- Red Shoulder Hawk
- Redtail Hawk
- Turkey Vulture
- Scrubjay
- Sparrow
- Towhee
- Woodpeckers
- Finches
- Doves

Pre-Activities:

Plant Lapbook
Adobe Springs Animal Report
Animal Tracks—What do They Reveal?
Classroom Camouflage
Squirrel Field Guide

Materials:

Construction Paper
Handouts
Glue Sticks
Markers

Handouts

Handouts

Art Supplies
Handouts

Handouts

Post Activities:

Adobe Springs Journal (Flora & Fauna)

Additional Resources:

Adobe Springs Plants:

<http://www.calflora.org/app/ipl?vrid=ce970&bloom=t>

Animal Tracking Guide:

http://www.oystccweb.com/uploads/2/6/4/4/26442920/animal_track_id_guide.pdf

"Oh Deer" Project Wild: K-12 Curriculum & Activity Guide.

Plant Lapbook

Engagement:

Introduce plants that might be seen on the Adobe Springs trail through a matching game (included in the teacher kit). Have the students match the picture of the plant to the description. For example, the description will describe the shape of the leaves.

Explore:

The students will choose one plant from the matching game to focus on, and to create their plant lapbook. Students will start by filling in the name of the plant and drawing a picture (based off of the information and picture from the matching game). Then students will learn about the general parts of a plant and what the plant needs to survive and live. While the students are learning more about plants, ask them some questions such as what would happen if the plant did not have water for a week? Explain that it might affect its growth.

Explain:

Students will write about the description of their plant along with drawing a picture of the leaf of their plant. Additionally, they will write down a fun fact about their plant. Students will write about what a plant needs in order to grow and survive. Their finished product will be a lapbook with information about how plants grow. Included in the book will be information about their chosen Adobe Springs plant.

*Technology can be used to look up additional information about their plant they have chosen. Additionally, on the Adobe Springs trail the students should have their journal that they can sketch and write down any information they have learned from their plant.

Next Generation Science Standard:

3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment.

Common Core ELA—Literacy:

W.3.2.A: Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.

List of Year Round Plants

- Clover (Clovers)
- Lace Lichen, Spanish Moss (*Ramalina menziesii*)
- Coyote Brush (*Baccharis perfoliata*)
- Red osier dogwood (*Cornus sericea* ssp. *sericea*)
- Slender willow herb (*Epilobium ciliatum*)
- Seaside heliotrope (*Heliotropium curassavicum* var. *oculatum*)
- Southern California black walnut (*Juglans californica*)
- Juncus, Rush (*Juncus* sp.)
- California Sycamore (*Platanus racemosa*)
- Fremont cottonwood (*Populus fremontii*)
- Coastal live oak (*Quercus agrifolia* var. *agrifolia*)
- Valley Oak (*Quercus lobata*)
- Polished willow (*Salix laevigata*)
- Poison oak (*Toxicodendron diversilobum*)
- Narrow leaf cattail (*Typha angustifolia*)

List of Spring Plants

- Common Fiddleneck (*Amsinckia menziesii*)
- Miner's lettuce (*Claytonia perfoliata*)
- Cleavers, Common bedstraw, Goose grass (*Galium aparine*)
- California man-root (*Marah fabacea*)
- California Blackberry (*Rubus ursinus*)

Year Round Plants

- Clover (Clovers)
- Lace Lichen, Spanish Moss (*Ramalina menziesii*)
- Coyote Brush (*Baccharis perfoliata*)
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- Polished willow (*Salix laevigata*)
- Poison oak (*Toxicodendron diversilobum*)
- Narrow leaf cattail (*Typha angustifolia*)

Plants

Presenting

By:

*This is what
my plant
looks like!*

Description of my plant

Leaf

*A fun fact about my
plant is...*

Cut on all of the **dashed** black lines! *Do not cut on the solid black line, this is where you will fold the paper!* On the **front** of the tabs you have made, draw a flower, stem, leaf and roots. Draw a background of where your flower is!

*These are the
parts of a plant*

Flower

Stem

Leaf

Roots

*What does a plant
need to grow?*

Cut on all of the **dashed** black lines! *Do not cut on the solid black line, this is where you will fold the paper!* On the **front** of the tabs you have made, draw a flower, stem, leaf and roots. Draw a background of where your flower is!

Sun

Air

Water

Soil

Adobe Springs Animal Report

Engagement:

For this activity, engage the students in a discussion about different animals they see in the natural environment. What do animals need to survive? (e.g. water, food) Transition the students by explaining they will be doing a report on an animal that lives at Adobe Springs. Most of these animals are there because of the natural spring. Have the students choose which animal they would like to research.

Explore:

Students will be using the Internet to complete the research report. Students will have access to a Google Document with websites that are hyperlinked (they will be able to click on the links and it goes straight to the site). Students will explore different aspects of the animal of their choosing, such as characteristics, habitat, diet, life span, and interesting facts.

Explain:

There are two options on how students will explain what they have learned:

1. Students can handwrite their information onto printouts.
2. Students can type their information onto the Google Document.

At the end of their research, students will have a complete flipbook of their animal that lives at Adobe Springs. Students should cut out each rectangle of information and glue to the top of each page where it says to glue from large to small. Make sure to instruct students on the gluing, so each of the headings at the bottom are easily read.

AUSD Technology:

RI.5 Use text features and search tools (key words, sidebars, hyperlinks) to locate information efficiently.

W.6 With guidance and support from adults, use technology to produce and publish writing as well as to interact and collaborate with others.

Common Core ELA—Literacy:

W.3.4: With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1-3 above.)

W.3.6: With guidance and support from adults, use technology to produce and publish writing (using keyboarding skills) as well as to interact and collaborate with others.

W.3.7: Conduct short research projects that build knowledge about a topic.

Adobe Springs Animal Report Instructions

<https://docs.google.com/document/d/1FwZj7nMp0hADLKmqRM4Amfcd7XVrg0CJaXDlygMvOQM/edit>

Choose from the following list of animals that you would find at Adobe Springs:

- California Mule Deer
- Gopher
- Raccoon
- Fox
- California Quail
- Red Shoulder Hawk
- Redtail Hawk
- Turkey Vulture
- Scrubjay
- Sparrow
- Towhee
- Ants
- Bees

Now it is time to research your animal! Take your time to learn more about your animal and answer your questions carefully.

Here are some websites to find information:

<http://www.biokids.umich.edu/>

<http://www.nhptv.org/natureworks/nw4.htm>

http://www.learningamongtheoaks.org/?page_id=4569

Once you start learning more about your animal, write in complete sentences what you have learned about your animal on the template on the following pages. Once you have finished the writing for each part, cut out your templates and glue from biggest to smallest where it says to glue.

Your project should look something like the picture on the right.

Adobe Springs Animal Flipbook

Name: _____

Description

Behavior

Diet

Habitat

Interesting Facts

Adobe Springs Animal Flipbook

Name: _____

Draw a picture of your animal on this page & make sure you write your name!

Once you finish drawing and coloring your animal, cut out the rectangle above on the black line. This is going to be the cover page of your animal flip book.

glue here

Describe how your animal looks (color, size, height, fur, feathers).

Description

This is the description page. What does your animal look like?

What does your animal look like? (Description)

What color is it?

Can it camouflage?

What size is your animal? Is it tall?

Does it have fur, features, or skin?

Once you finish writing cut out the rectangle above on the black line.

glue here

Describe your animal's survival skills, predators, and life span.

Behavior

This is the behavior page. How does your animal act?

What survival skills does it have?
Does your animal have predators?
How long do they live?

Once you finish writing cut out the rectangle above on the black line.

glue here

Describe what your animal eats.

Draw what your animal eats.

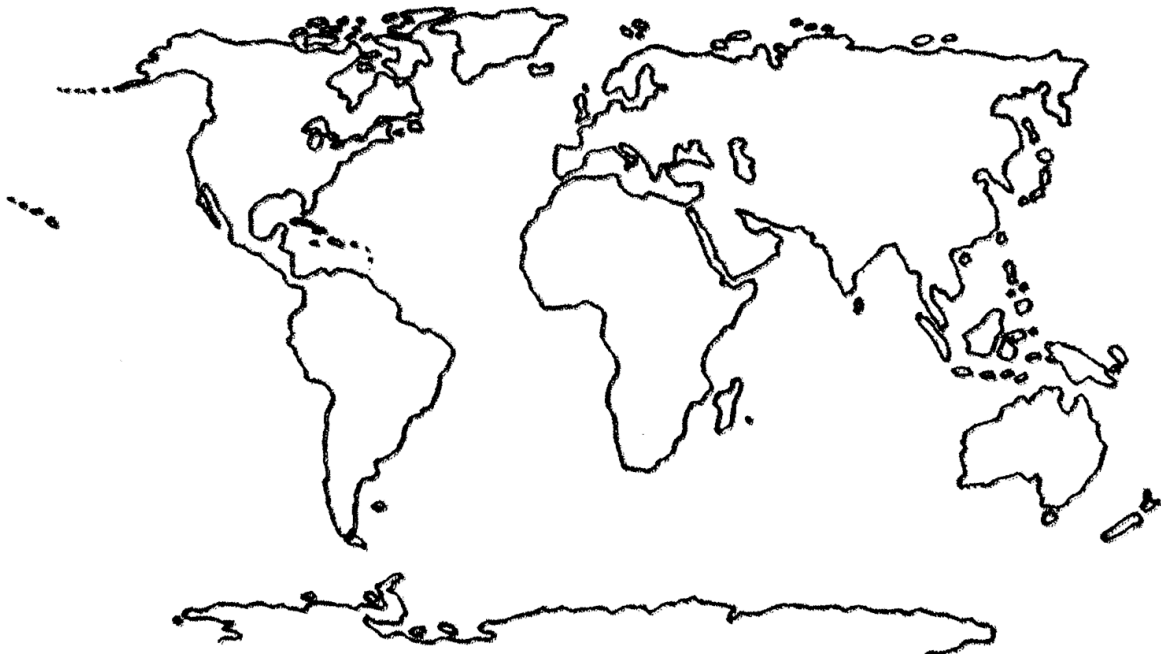
Diet

Once you finish writing cut out the rectangle above on the dashed line.

glue here

What is the weather like where your animal lives? Do they build nests or houses? Do they live in trees or on the ground?

Color where your animal lives.



Habitat

Once you finish writing cut out the rectangle above on the dashed line.

glue here

[illegible]

Interesting Facts

Animal Tracks—What Do They Reveal?

Engagement:

Ask students what we can learn from looking at animal tracks. Write down their answers on the board. The answer should also include:

- Does the animal have toes? If so, how many?
- How many animals live in a specific area?
- How fast the animal was moving?
- How far did the animal move from where it slept?

Explore:

Have the students look at the handout about the four different types of animal prints. Then have them answer the different questions about the different animal prints. These questions will help the students differentiate the different tracks. Some of these tracks may be seen at the Adobe Springs site.

Depending on the weather, students may not see many tracks. However, they may see them around the community or at home!

Explain:

The questions presented on the worksheet will help the students use their own words to explain what they have learned about different animal tracks. After the students have completed the worksheet, have a class discussion to have students share out their answers. Not all of the students will have the same answers due to the variety of correct answers.

Next Generation Science Standards:

Crosscutting Concepts: Patterns

- Similarities and differences in patterns can be used to sort and classify natural phenomena. (3-LS3-1)

Animal Tracks—What Do They Reveal?

The Zig-Zaggers

Zig-zaggers have long legs. Their back print lands on or next to their front print so that you can see a little bit of both prints. If these animals are walking in the snow, it makes it much easier for them to walk in the same track.

Examples: Elk, Deer, Moose, Mountain Lion, Dog, Coyote, Foxes, Humans



Leapers and Hoppers

These animals have back legs longer than their front legs. When these kinds of animals move, their front feet land first, and then their back feet land in the front!

Examples: Rabbits, Hares, Field Mice, Squirrels, Voles



The Bounders

This kind of animal has long bodies with legs all the same length.

Examples: Weasels, Ferrets, Pine Martens, Running Cats and Dogs



Waddlers or “Fatties”

This type of animal is normally slow and they drag their bellies when they walk.

Waddlers have short legs.

Examples: Beaver, Porcupine, Bear, Skunk



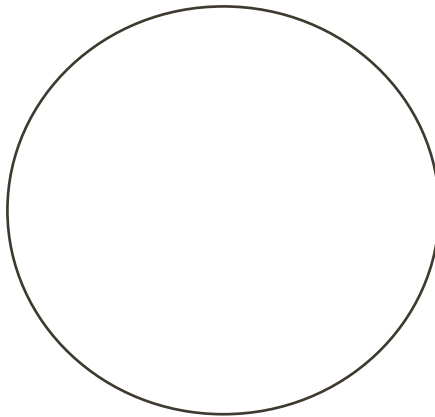
Who Lives at Adobe Springs?

The most common **animals** that live at Adobe Springs are the:

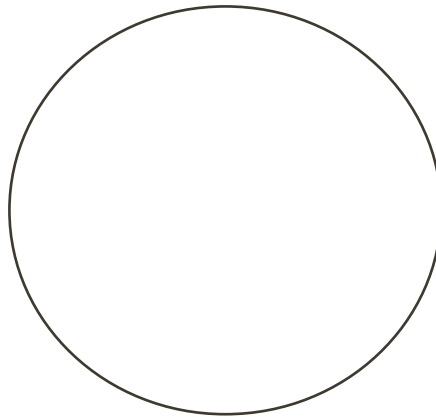
- California Mule Deer
- Gopher
- Raccoon
- Fox

What kind of **animal tracks** would you expect to find at Adobe Springs?

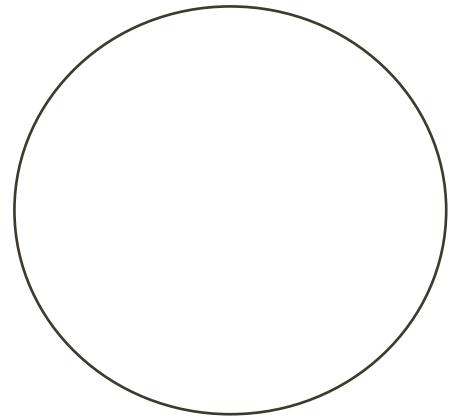
Draw and label the kind of tracks that you would expect to see from each animal:



The California Mule Deer is a
Zig-Zagger



A Gopher is a



A Fox is a

There are also many kinds of **birds** who live at Adobe Springs, such as

- California Quail
- Red Shoulder Hawk
- Redtail Hawk
- Turkey Vulture
- Scrubjay
- Sparrow
- Towhee
- Woodpeckers
- Finches
- Doves



In the box, draw what you think most bird footprints look like. Does it look like any other animal's tracks? Why or why not?

Classroom Camouflage

Engagement:

Show the students the examples of camouflaged animals on this webpage (and let them try to find the animals!): <http://oakdome.com/k5/lesson-plans/powerpoint/animal-camouflage-pictures-and-information.php>.

Demonstrate to the students what camouflage means by showing the students a box of colored toothpicks or pipe cleaners (make sure that there are green toothpicks in the mix). Count the number of toothpicks and put the total number of each color on the board. Take the toothpicks and spread them out over grass. (If you are unable to do this activity over grass, choose a patch of the earth with tan toothpicks to demonstrate. Allow the students to pick up as many toothpicks as they are able to in ten seconds. Have the students count how many toothpicks they were able to collect and compare it to the original number. Ask students to talk about which was the easiest and most difficult and why. Explain to the students that camouflage is how animals adapt. Different animals have colors or markings on the fur, feathers, scales, or skin that allows them to blend into where they live. Have students work in pairs or groups to discuss how can camouflage help animals survive. What are examples?

Explore:

Have students choose one of the animal outlines (on pages 79-81). These are animals that would be found at Adobe Springs. Tell the students that your classroom has become a wild habitat and they need to choose a specific home for their animal. Allow the students to color their animal so it will be able to be camouflaged in its specific home. Once the students are done, they can place the animals in their habitat (make sure they do not “bury” the animals, they need to be out in the open yet “hidden”). They should be hidden by the color patterns they created. If possible, have another class try to find the animals and see how many they can find.

Explain:

Take a student’s animal and place it in a “habitat” that causes it to stand out instead of being camouflaged. Ask the students to talk in their groups about how these animals may protect themselves from being eaten by predators. Have them discuss what could be advantages and disadvantages of camouflage compared to markings that stand out.

Next Generation Science Standards:

Crosscutting Concepts: Patterns

- Similarities and differences in patterns can be used to sort and classify natural phenomena. (3-LS3-1)

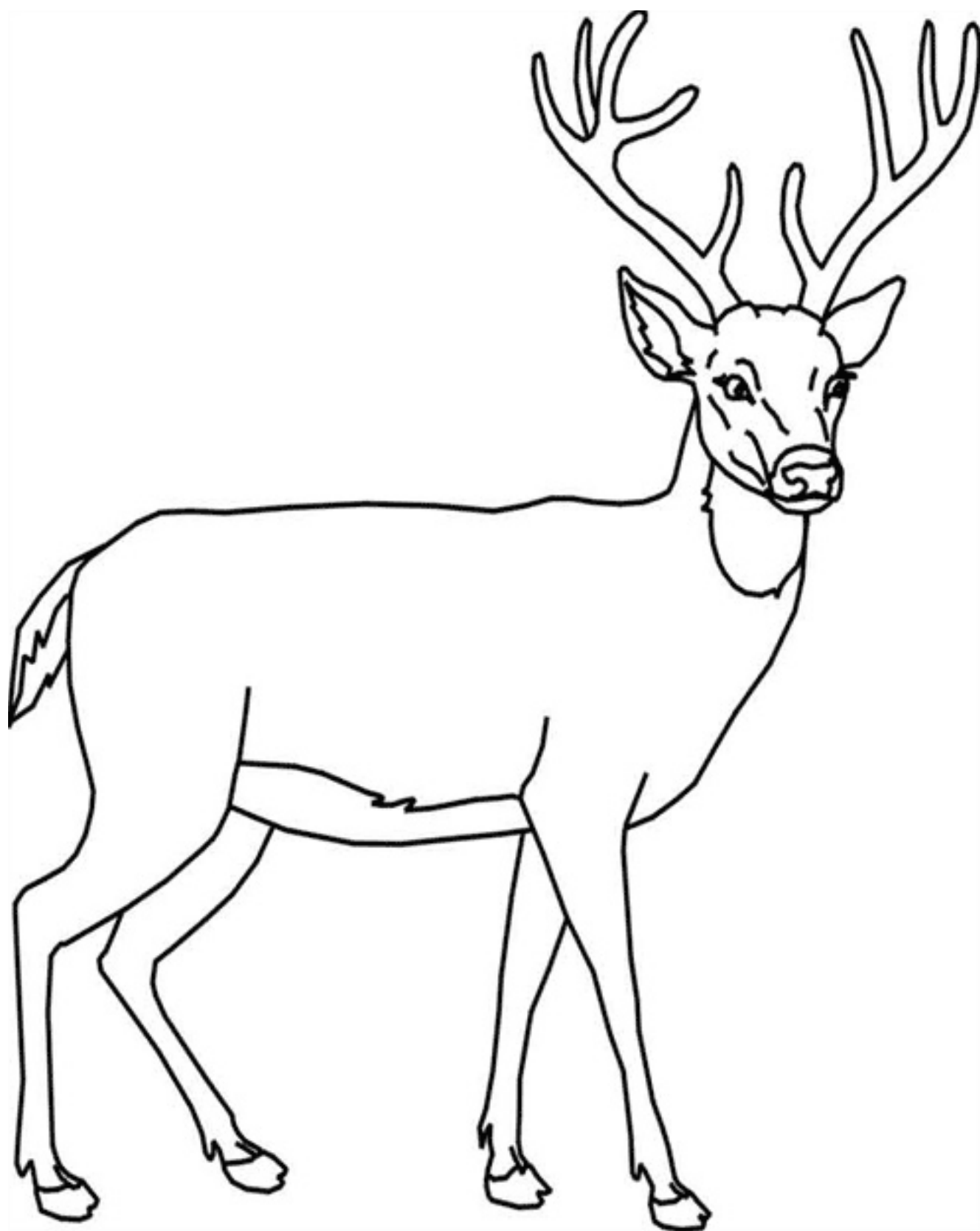
Vocabulary:

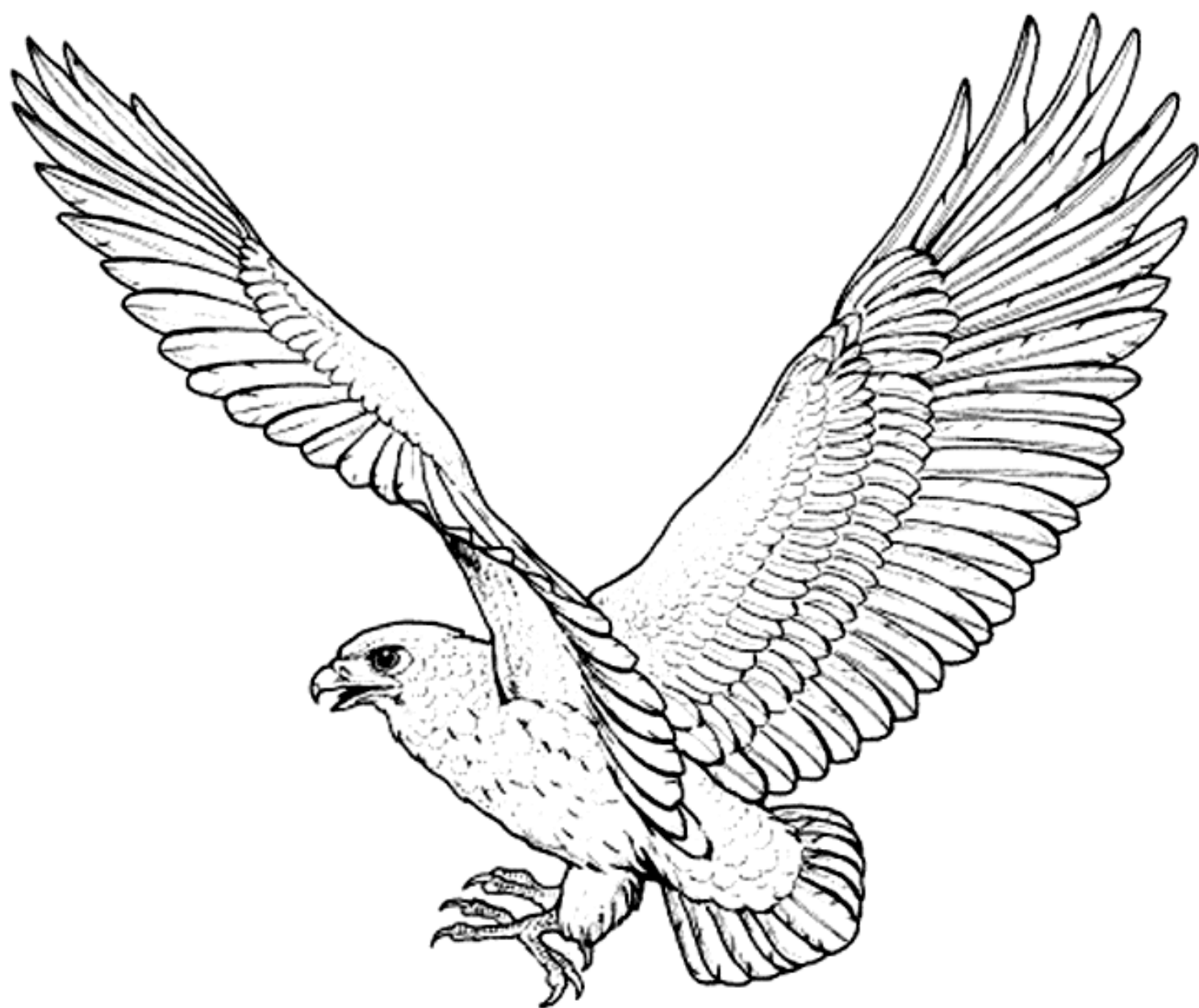
Camouflage: to hide or disguise the presence of a person, animal, or object

Habitat: the place where the animal lives

Adapted from Melissa Kaplan’s “Classroom Camouflage,” <http://www.anapsid.org/pdf/camoflage.pdf>







Squirrel Field Guide

Engagement:

Find out your student's prior knowledge by asking them what they know about tree squirrels. When do they see squirrels? Is it during the day or in the dark? What color are they? What is their skin like? Write some of the descriptions of squirrels that the students tell you on the board. Provide the students with the worksheet (pages 83-84) and have them draw in the hands on the clocks. On the bottom hand of the worksheet, students should draw arrows the body features to the survival skill. An example is provided to help the students fill in the remaining body features.

Explore:

As a class, go outside and look for squirrels at a time that they should be active (i.e. morning). Using the back side of the worksheet, students should check off what they observe their squirrel doing and the location where they found the squirrel. Then have them draw the squirrel they see and note any markings that makes the squirrel unique.

Explain:

Students should become aware that each squirrel has its unique and individual characteristics. Not all squirrels do the same thing or even look the same. After students have completed the worksheet, have the students share out what they have learned about squirrels that they did not know before this activity. Compare it to the list that is written on the board.

Common Core—Mathematics:

Solve problems involving measurement and estimation.

MD.A.1.: Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g. by representing the problem on a number line diagram.

Next Generation Science Standards:

LS3.B: Variation of Traits

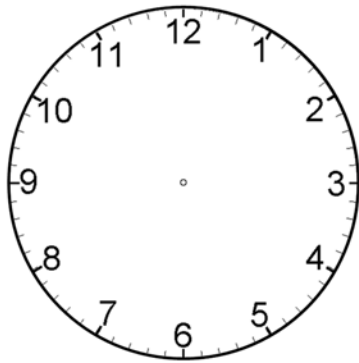
- Different organisms vary in how they look and function because they have different inherited information. (3-LS3-1)
- The environment also affects the traits that an organism develops. (3-LS3-2)

Squirrel Field Guide

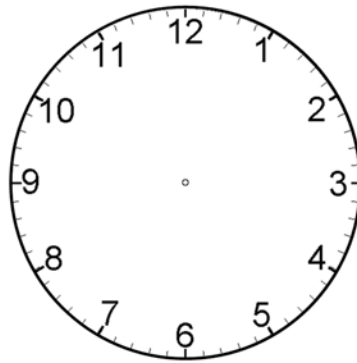
When Do Squirrels Come Out to Play?

During spring, summer, and autumn, tree squirrels like to come out between 2-4 hours after the sun rises. The sun normally rises about 6:00 A.M. They also are more active 2-4 hours before the sun sets at about 8 P.M. They do not like to be out in the heat because of their thick fur. During the winter months, they are most active 2-4 hours before the sun sets at about 5:00 P.M.

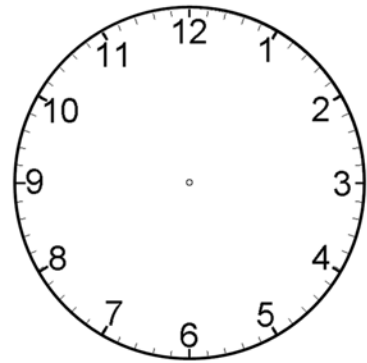
Draw hour hands on the clocks around the best times to see tree squirrels in the summer and winter months.



Summer Morning



Summer Afternoon



Winter Evening

How Do Different Body Features Help Squirrels Survive?



Body Feature of Squirrels

Long bushy tail

Thick fur

Big ears

Big eyes

Sensitive whiskers and nose

Long, sharp teeth

Sharp claws & flexible forefeet

Strong back legs

Sharp claws

Survival Skill

Stay warm

Balance while running

Smell food and danger

Open hard nuts

Climb trees safely

Jump long distances

Dig holes to store food

See danger quickly

Hear danger coming

What Did Your Squirrel Do?

Check each behavior that you observe your squirrel using.

☐ Climb

☐ Chatter

☐ Chase

☐ Bathe

☐ Sleep

☐ Bury Food

☐ Run

☐ Eat

☐ Observe

☐ Scratch

☐ Poop

☐ Jump

☐ Dig

☐ Play

☐ Drink

☐ Groom

☐ Rest

☐ Hunt Food

☐ _____

☐ _____

LOCATION

☐ Tree

☐ Flower bed

☐ Lawn

☐ Shrub

☐ Garden

☐ Building

☐ _____

Do All Squirrels Look the Same?

It seems as if all squirrels look the same, but if you look closely each squirrel is unique. As you observe, can you find something unique between two squirrels? Draw a picture of what your squirrel looked like and where your squirrel traveled (location). Make sure you draw the different markings that make your squirrel unique!

Adobe Springs Journal (Flora & Fauna)

Engagement:

To engage students into this activity, ask them about what they had learned about plants and animals. On the board start a list of things that are similar among the two (they both need water, food, etc.) and differences. Have the students look in their Adobe Springs Journal to remember what they have drawn or written from the fieldtrip.

Engagement:

Students will have explored at the fieldtrip by seeing the plants on the site and talked about the animals.

Explain:

In their Adobe Springs Journal, the students will complete their “Flora & Fauna” section by writing in complete sentences about their favorite animal and plant that they learned about. Encourage the students to choose a different plant and animal than they did their plant and animal report on.

Next Generation Science Standards:

[3-LS3-2] Use evidence to support the explanation that traits can be influenced by the environment.

Common Core ELA—Literacy:

W.3.8: Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.

What was your favorite plant? Why? What was your favorite animal? Why?

[illegible]

The Springs

About Adobe Springs

Water is one of the most important resources in the world; it is what allows life to survive and grow. Human survival depends on having clean water. Adobe Springs provided the essential water supply for the Salinans who lived here, the Anza Party who stopped here, the people who lived in the Estrada Adobe, and all of the plants and animals.

A spring, such as Adobe Springs, is a natural place where the water flows to earth's surface from the ground. It is the site where the aquifer surface meets the ground surface. As the water moves through the underground rock, minerals are dissolved in the water. This provides water, nutrients, flavor, and sometimes carbon dioxide bubbles.

The Salinas River is an important resource to where we live. It is the fourth largest watershed in California and flows 170 miles from the mountains in southern San Luis Obispo County towards Monterey Bay. This watershed is about 4,780 miles long and includes the Nacimiento River, San Antonio River, Estrella River, and Arroyo Seco River. It serves as the main source of water for Atascadero, as well as other cities from San Luis Obispo to Salinas.

Both Adobe Springs and the Salinas River are part of our local watershed. A watershed is a feature of land that drains into lakes, rivers, or oceans. In Atascadero, our watershed also includes Atascadero Creek, Graves Creek, and numerous other small tributaries of the Salinas River, which is the source of Atascadero's water.

All of the water supplies in Atascadero played, and continue to play, a large role in maintaining life for the people, animals, and wildlife who live here.

Pre-Activities:

Water Cycle Model
Water Cycle Bracelets
Making Clean Water
Wetland Model in a Bottle

Materials:

Art Materials
Construction Paper
Gravel
Scissors
Water
Ziploc Sandwich Bags

Beads
Bracelet Materials (yarn)

Clear Container
Coffee Filters
Flowerpot
Gravel
Sand

Dirt
Grass with soil
Gravel
Leaves
Rocks
Sand
Small Pebbles

Materials:

I Found Adobe Springs! (Journal)

Additional Resources:

Incredible Journey (Water Cycle)
www.portal.projectwet.org

Teacher's Guide to Wetland Activities
<http://www.greenwing.org/dueducator/duc/anadapdf/teachersguide.pdf>

Water Cycle: Water Cycle in a Bag
www.youtube.com

Water Cycle Model

Engagement:

The water cycle is an important part of maintaining a wetland. It allows water to travel from the air to the earth for use by organisms, and back into the air. The four main components of the water cycle are evaporation, condensation, precipitation, and accumulation. It is important for students to be aware that the water also takes additional paths when it reaches the earth's surface, such as being absorbed into the soil, used for growth of plants, and to sustain life in humans and animals.

Ask the students where water is found and what objects water can move through as it flows. Write the students' responses on the board. The students will create a water cycle interactive notebook using construction paper and art materials (page 89-91). This will be a booklet to record their observations of the water cycle. Students will create their water cycle model made by using a Ziploc bag (directions on page 92).

Explore:

Once the students have completed making their water cycle model, they will tape it to a window that receives sunlight. Throughout the week, have the students check their water cycle model to see what is happening to the water and if any of the water levels have changed. Have the students make observations in their notebook. (This may take a few days).

While the students are waiting for the water cycle models to change, it would be beneficial to have the students complete the next activity called Water Cycle Bracelets to gain a deeper understanding about other aspects of the water cycle.

Explain:

In their water cycle interactive notebook, students will write down their observations and explain the process of each main component or form of water that they learned by creating their bracelet.

Next Generation Science Standards—Science and Engineering Practices:

Obtaining, Evaluating, and Communicating Information

Obtaining, evaluating, and communicating information in 3-5 builds on K-2 experiences and progresses to evaluating the merit and accuracy of ideas and methods.

Common Core ELA—Literacy:

W.3.4: With guidance and support from adults, produce writing in which the development and organization are appropriate to task and purpose. (Grade-specific expectations for writing types are defined in standards 1-3 above.)

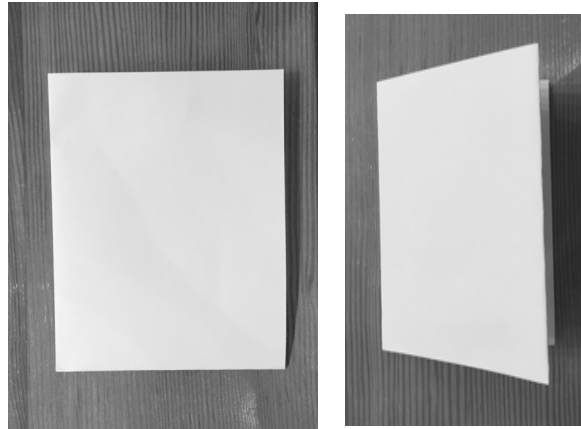
W.3.7: Conduct short research projects that build knowledge about a topic.

Single Paper Book (Water Cycle Interactive Notebook)

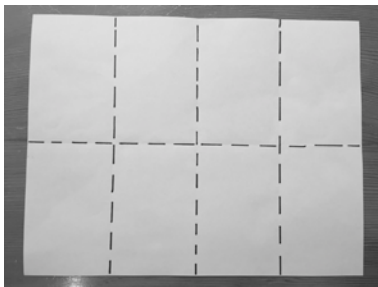
1. Take one piece of construction paper and fold it horizontally ("hotdog" style).



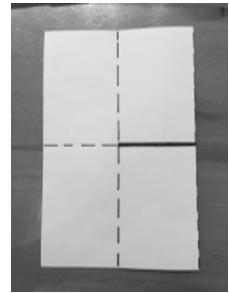
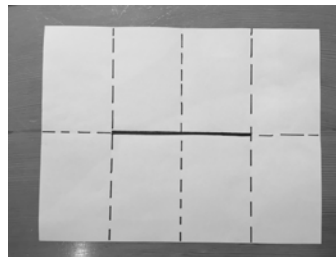
2. Then fold the half piece vertically.
3. Fold that piece again vertically.



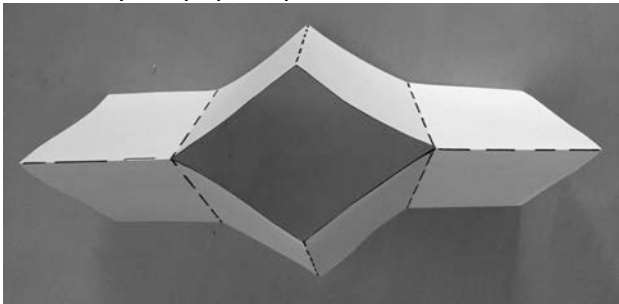
4. You should end up with folds and eight of the same sized squares.



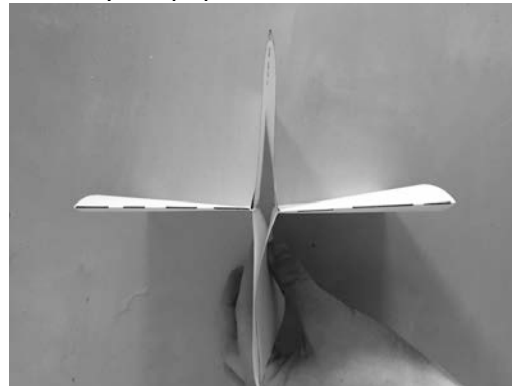
5. The next part is to cut along the solid black line. That is the only place you want to cut. The easiest way to do this is to fold your piece of paper in half vertically and cut the black line.



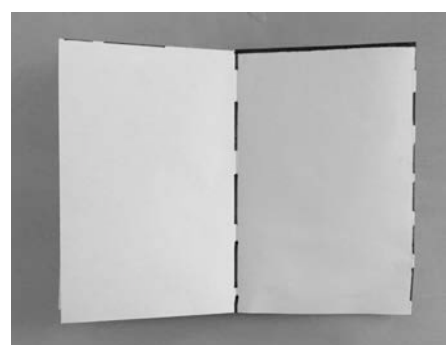
6. Stand your paper up like this:



7. Fold your paper like this



8. You have created your book!



The Water Cycle

Front (Page 1): The Water Cycle
Page 2: Evaporation
Page 3: Observations
Page 4: Condensation
Page 5: Observations
Page 6: Precipitation/Accumulation
Page 7: Observations
Page 8: Blank

Evaporation

Observations

Condensation

Observations

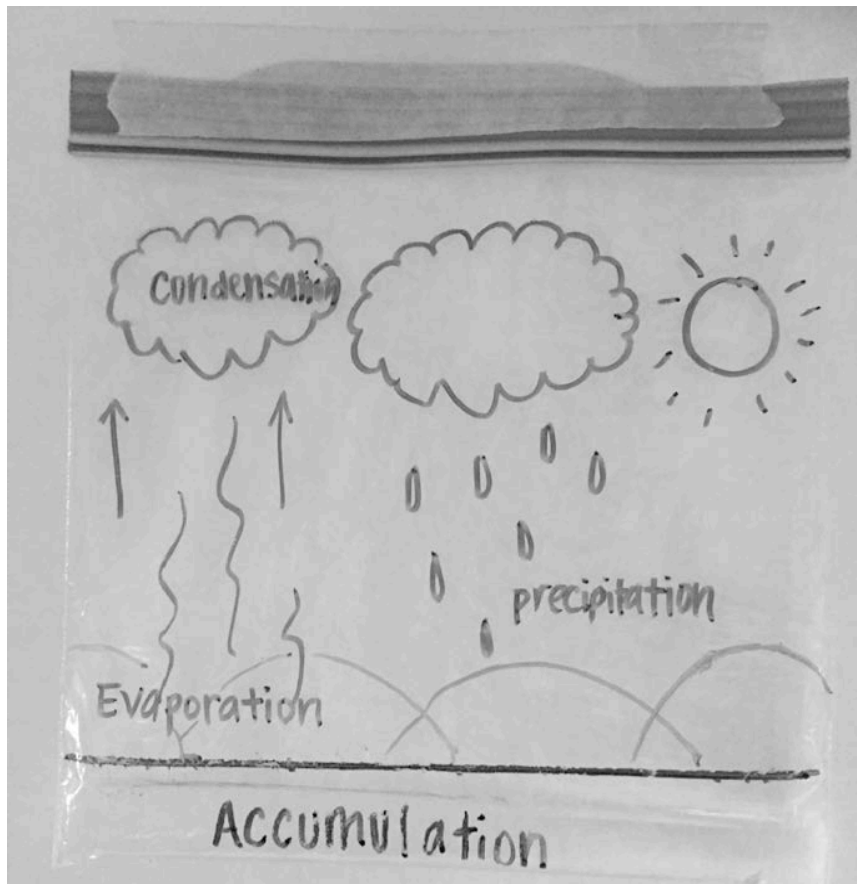
Precipitation/Accumulation

Observations

How to Make a Ziploc Water Cycle

Procedure:

1. Mark a line 1 inch from the bottom of the bag.
2. Using permanent markers, have the students draw an image using sun, clouds, and landforms (hills or Adobe Springs)
3. Add 2 tablespoons of gravel and 1 teaspoon of water into the bag. To see the water moving better, add a drop of food coloring to the water.
4. The gravel represents an aquifer. An aquifer is gravel that contains water.
5. Zip the bags closed and place them on the classroom windows so the water cycle can begin!



Water Cycle Bracelet

Engagement:

Have the students complete the Water Cycle Model activity (page 94) prior to this activity. Show this video that briefly gives an overview of the water cycle: <https://www.youtube.com/watch?v=TWb4KIM2vts>

Explore:

Students will explore the never-ending process of the water cycle and the additional routes water takes. This can be done in stations by each color bead or in groups with an assortment of beads within each group. With yarn (or other bracelet material), give each student a yellow bead. Explain that it is meant to represent the sun. The sun gives energy that helps the water cycle keep moving. As students move to each station, they will get to read about a different part of the water cycle or something that uses water. The bracelet represents this never-ending process that water moves through.

*The parts of the water cycle that goes with each color bead is in the teacher kit.

Explain:

At the end of creating their bracelets, students should be able to explain different places where water is used. They can add this information to their Water Cycle Interactive notebook.

Next Generation Science Standards—Science and Engineering Practices:

Obtaining, Evaluating, and Communicating Information

Obtaining, evaluating, and communicating information in 3-5 builds on K-2 experiences and progresses to evaluating the merit and accuracy of ideas and methods.

Adapted from: Project WET: Curriculum and Activity Guide 2.0

Teacher Directions: Water Cycle Stations

Given: Piece of yarn or other bracelet material with one yellow bead to represent the sun.

Stations/Beads:

1. Condensation (clouds) – white
2. Precipitation (rain, hail, sleet, snow) - purple
3. Accumulation (ground water, ocean, lake, etc.) – blue
4. Soil - brown
5. Plants - green
6. Animals – orange
7. Evaporation - clear

At each station, students will learn about each part of the water cycle from the following pages. They will read about how water is used and what is happening to it. Then they will add a bead to represent that piece of the water cycle to their bracelet.

After the students have created their bracelets, ask the students who and what would use water from the Adobe Spring? Have them think about the Salinans, De Anza Party (their character), favorite plant, and animal they learned about in this unit.

Making Clean Water

Engagement:

Talk with the students about the importance of having clean water. Most of the students are used to having clean drinking water from their home faucets. Ask the students why we want clean water. Are we the only ones who need clean water? (Have them think about the people who lived near Adobe Springs, the people who stayed there temporarily, animals, and plants.)

Explore:

In small groups or by teacher (depending on the resources available), follow the directions on page 97 to watch how clean water is made. Have the students take turns making a water filter and putting in muddy water.

Explain:

Have the students write down their observations on the worksheet (page 96). Students should be able to answer the following:

- What did they see?
- Where did the dirt go?
- Why did clean water come out?

Next Generation Science Standards—Crosscutting Concepts:

Connections to Engineering, Technology, and Applications of Science

- Engineers improve existing technologies or develop new ones to increase their benefits (e.g., better artificial limbs), decrease known risks (e.g., seatbelts in cars), and meet societal demands (e.g., cell phone). (3-ESS3-1)

Connections to Nature of Science

- Science affects everyday life. (3-ESS3-1)

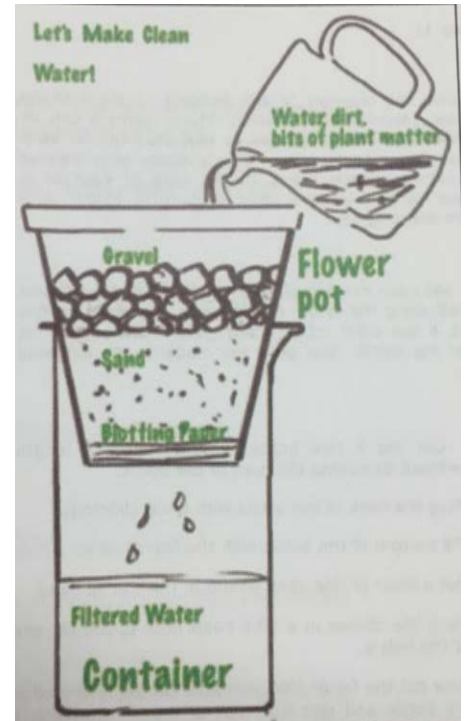
Making Clean Water

Materials:

- Gravel
- Sand
- 3 to 4 coffee filters
- Clean flower pot
- Clear container
- Large measuring cup/pouring jug
- Dirt, pieces of plants

Directions:

1. Put coffee filters in the flowerpot.
2. Add sand first, and then gravel on top of the coffee filters.
3. Put the flowerpot over a large clear container.
4. In a large measuring cup, place the dirt, pieces of plants, and water, and mix it together.
5. Pour the mixture of muddy water into the flowerpot so it will pass over the filter.
6. Watch as the mixture drips from the bottom of the flowerpot into the clear container.



Questions:

1. What did you see?

2. What happened to the dirt?

3. Why did clean water come out?

4. Who would use the clean water at Adobe Springs?

Wetland Model in a Bottle

Engagement:

Adobe Springs is a wetland where water moves under the ground in spaces between soil or rock particles. The spring is formed when ground water moves in a downward direction until it reaches a layer that it cannot get through. To demonstrate the concept of gravity, throw an object into the air and watch it fall to the ground, and ask the students why the object came back down. Explain that gravity also works with water when it moves downhill.

Explore:

Separate the class into three different groups and provide precut 2-liter empty plastic soda bottles with tops. Give the students bottles that are precut to have a long opening down the side of the bottle. Be sure not to **remove** the pour-spout. Have the students collect (or provide for them) grass, leaves, small rocks, soil, sand, and gravel. (For one group, you will need a piece of grass connected to soil) Let each group set up their bottle. After each group sets up their wetland model, as a class watch as each group pours 1-2 cups of dirty water (mix the water with dirt) into the backend of each bottle. Make sure to have the caps on! Then set a clear container at the end of the opening of the bottle. The “wetland” should be at an angle. Do this for each wetland. Set the containers aside in the front of the classroom for the students to observe which wetland produced the cleanest water.

Explain:

Have students discuss in their small groups the following questions and then discuss it as a class:

- Did the dirty water change color within each bottle? Why?
- Which bottle had the cleanest water? Why?
- Why are these changes important?
- How does this relate to the water we find in the rivers and streams?

Next Generation Science Standards—Science and Engineering Practices:

Analyzing and Interpreting Data

Analyzing data in 3-5 builds on K-2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations.

- Analyze and interpret data to make sense of phenomena using logical reasoning. (3-ESS2-2)

Next Generation Science Standards—Crosscutting Concepts:

Connections to Nature of Science:

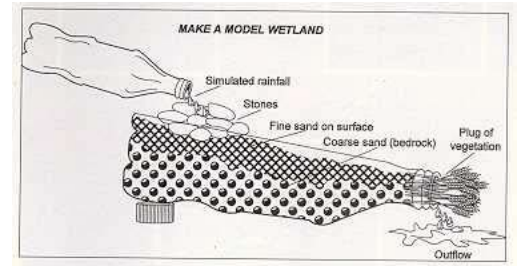
Scientific Knowledge Assumes an Order and Consistency in Natural Systems

- Science assumes consistent patterns in natural systems. (3-LS4-1)

Wetland Model – Bottle A

Directions:

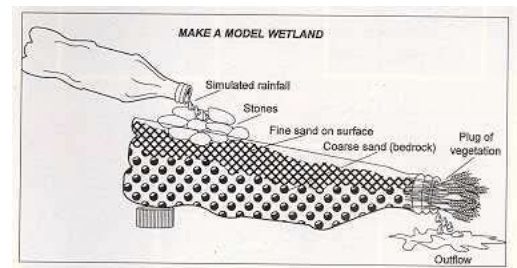
1. Fill the bottle with grass connected to soil.
2. Set the bottle on its side with the back of the bottle slightly tipped upward. To do this put the end of the bottle on top of something that isn't too tall.
3. With the cap on, pour 1-2 cups of dirty water into the backend of the bottle.
4. Place a clear container at the opening of the bottle and remove the cap.



Wetland Model – Bottle B

Directions:

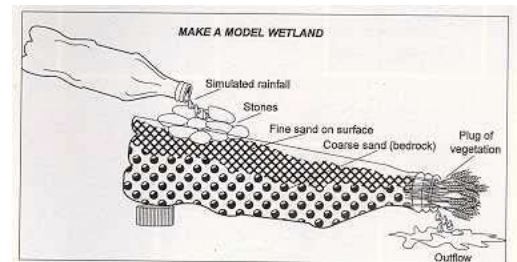
1. Fill the bottle half way with dirt, sand, gravel or small pebbles.
2. Set the bottle on its side with the back of the bottle slightly tipped upward. To do this put the end of the bottle on top of something that isn't too tall.
3. With the cap on, pour 1-2 cups of dirty water into the backend of the bottle.
4. Place a clear container at the opening of the bottle and remove the cap.



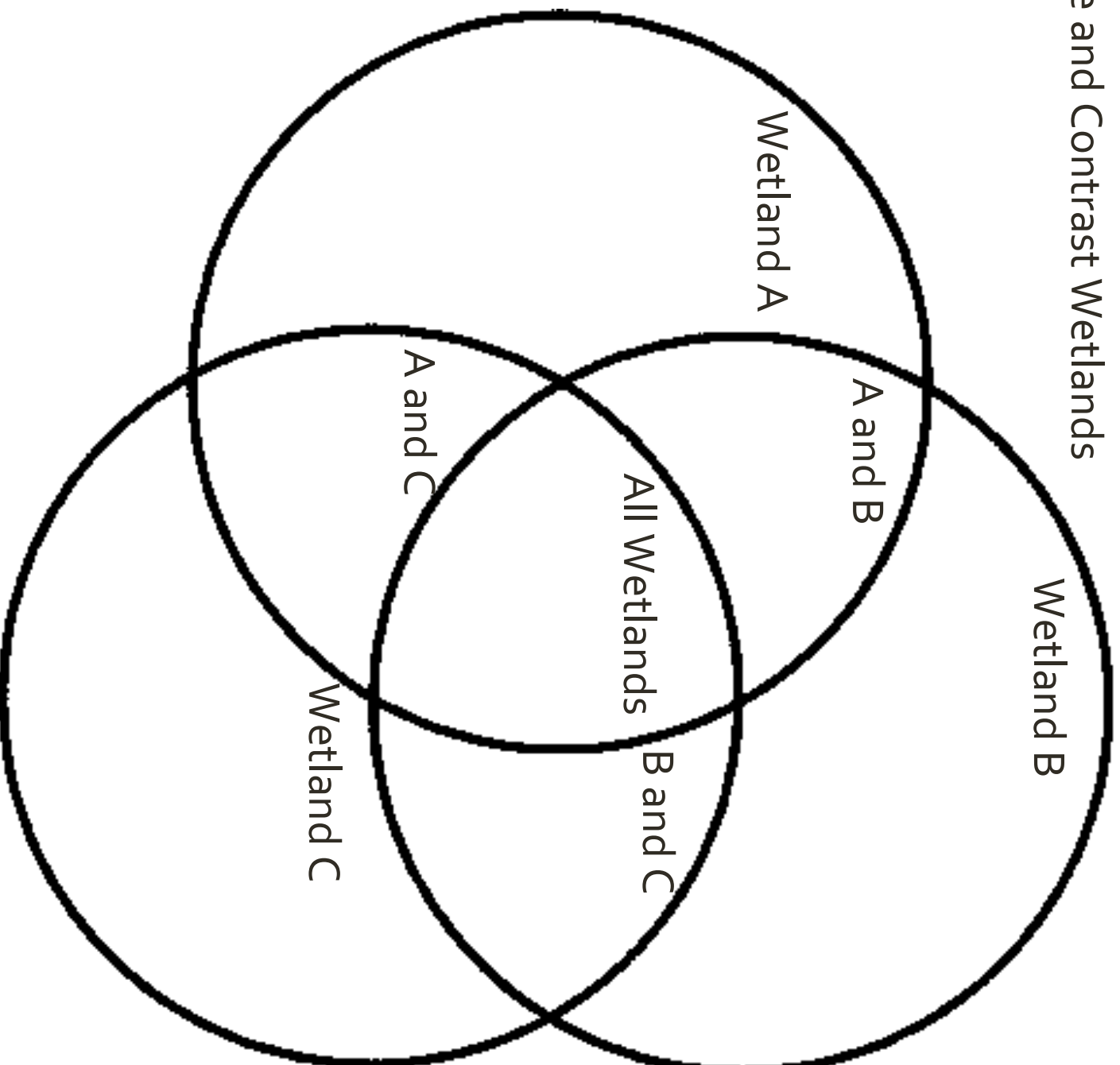
Wetland Model – Bottle C

Directions:

1. Fill half of the bottle with a small amount of soil, sand, rocks and leaves.
2. Set the bottle on its side with the back of the bottle slightly tipped upward. To do this put the end of the bottle on top of something that isn't too tall.
3. With the cap on, pour 1-2 cups of dirty water into the backend of the bottle.
4. Place a clear container at the opening of the bottle and remove the cap.



Compare and Contrast Wetlands



I Found Adobe Springs! (Journal)

Engagement:

Write down some of the things that the students found most interesting about Adobe Springs that they saw when they were there. What did they see, what was the most interesting, and what was unexpected?

Engagement:

Students will complete the previous lessons and explored Adobe Springs on their field trip.

Explain:

In their Adobe Springs Journal, have the students write a story from their Anza character's point of view of what they saw at the Spring. Include details about what the Spring looked like, the excitement to find clean water, interesting facts about the Spring, and other details about water that they would like to share. Then have the students draw a picture of what the spring looked like.

Common Core ELA—Literacy:

W.3.3: Write narratives to develop real or imagined experiences or events using effective technique, descriptive details, and clear event sequences.

3.3A: Establish a situation and introduce a narrator and/or characters; organize an event sequence that unfolds naturally.

3.3B: Use dialogue and descriptions of actions, thoughts, and feelings to develop experiences and events to show the response of characters to situations.

I Found Adobe Springs!

What did you see? What was most interesting about the Spring? What was unexpected?

[illegible]

This is what Adobe Springs looks like!

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Third Grade Standards

For more information on all of the standards for your grade level, please visit:
<http://www.cde.ca.gov/be/st/ss/>

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<https://docs.google.com/document/d/1D0Ou1lMiMtje6Iqjn4HmHXdN0xro4lN2kG7Yp9X6myo/edit>

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Communicate, Create, and Collaborate

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Reading & Resources

Native Americans—Salinans:

- California Indians Food & Culture:
http://www.lessonsofourland.org/sites/default/files/CA%20food%20teaching_kit.pdf
- Earth Oven: <http://www.texasbeyondhistory.net/bowie/middenwhat.html>

Estrada Adobe

- *The Lands of Mission San Miguel* by Wallace Ohles
- For Kids: *Junior Scientists Experiment with Soil* by Vicky Franchino

Flora:

- e Meg Perry's page of recommendations

Fauna:

- Wild Tracks! A guide to Nature's Footprints
- How to Spot hawks and Eagles
- Who Eats What; food chains and food webs

Spring:

- Tracking trash; flotsam, jetsam, and the science of ocean motion
- *Spring Waters Gathering Places* by Sandra Chisholm DeYonge, Project Wet Foundation



Adobe Springs