

Exploring the Geography of Coachella Valley

A Curriculum Guide for Grade 3, Standard 1

Table of Contents

Acknowledgements	i
Table of Contents	1
Unit Overview	2
Common Core State Standards: Reading Standards for Information Text	2
Academic History-Social Science Content Standards for Grade 3	2
Kindergarten to Grade 5 Historical and Social Sciences Analysis Skills	3
Focus Questions and Assessment	3
Geography of the Coachella Valley – Background Information for the Teacher	4
Supplies Needed	6
Lesson 1: Location Match-Up	8
Lesson 2: Looking at Earth	11
Lesson 3: Where I Live	14
Lesson 4: Geographic Terms and Definitions	16
Lesson 5: Right Here in the Coachella Valley	20
Lesson 6: Geographical Features of Coachella Valley	24
Lesson 7: Human-Made Features of Coachella Valley	29
Lesson 8: Communityville	31
Extended Activities	39

Unit Overview: Exploring the Geography of Coachella Valley

Description of the Unit The unit begins with *Matching Vocabulary Cards* that help students learn the name of their city, county, state, nation, continent, hemisphere, and planet. In Lesson 2, students use a variety of maps to find these geographic locations while in Lesson 3 they construct a “Flip-Book” titled “Where I Live.” In Lessons 4 and 5, students study geographic terms and definitions and use local maps to identify key geographical features in the Coachella Valley. In Lessons 5 and 6, students construct a map of the Coachella Valley and identify key geographical features and human-made features. The focus in Lesson 8 is on how the natural environment of “Communityville” has been changed over time. All projects are compiled into an *Atlas of the Coachella Valley*.

Common Core Standards

Reading Standards for Informational Text

Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a Grade 3 topic or subject area.

Use text features and search tools to locate information relevant to a general topic efficiently.

Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text (e.g., where, when, why and how key words occur).

Writing Standards

Write Informative text to examine a topic and convey ideas and information clearly

Language Standards

Conventions of Standard English: Capitalize appropriate words; use commas in addresses; use conventional spelling for high-frequency words and other studied words.

Vocabulary Acquisition: Determine or clarify the meaning of unknown words based on Grade 3 content; acquire and use accurately grade-appropriate general academic and domain specific words.

Academic History-Social Science Content Standards for Grade 3

Grade 3.1: Students describe the physical and human geography and use maps, tables, graphs, photographs, and charts to organize information about people, places and environment in a spatial context by:

1. identifying geographical features found in their local region (e.g., deserts, mountains, valleys, hills, coastal areas, oceans, lakes)
2. tracing the ways in which people have used the resources of the local region and modified the physical environment (e.g., a dam constructed upstream changed a river or coastline).

Kindergarten to Grade 5 Historical and Social Sciences Analysis Skills

Chronological and Spatial Thinking

Students use map and globe skills to determine absolute locations of places and interpret information available through a map's symbolic representations.

Students judge the significance of the relative location of a place.

Research, Evidence, and Point of View

Students pose relevant questions about events they encounter in ...photographs, maps

Historical Interpretation

Students identify the human and physical characteristics of the places they are studying and explain how those features form the unique character of those places.

Focus Questions

Lesson 1: What words are used to describe where we live?

Lesson 2: Where is our community located?

Lesson 3: How do I describe where I live?

Lesson 4: How do I define geographic terms?

Lesson 5: What geographical features do we have in the Coachella Valley?

Lesson 6: How do I draw a map of the Coachella Valley?

Lesson 7: What are the human-made features of the Coachella Valley?

Lesson 8: How do people change or modify the natural environment of a community?

Assessment

Lesson 1: Pre-assessment map of the Coachella Valley

Lesson 2: *Fill in the Blanks* (Handout 2.1)

Lesson 3: Flip Book of "Where I Live"

Lesson 4: "Where I Live" Quiz

Lesson 5: Geographic Match-Ups; Right Here in the Coachella Valley

Lesson 6: Geographic Terms Quiz; Geographical Features Map of Coachella Valley

Lesson 7: Geographical and Human-Made Features Map of Coachella Valley

Lesson 8: Changes in Communityville - A Compare and Contrast Paragraph

Geography of the Coachella Valley

Background Information for the Teacher

The Coachella Valley is an irrigated agricultural and recreational desert valley located in the lower Colorado desert region of southern California east of Los Angeles. The valley extends for approximately 45 miles (72 km) in Riverside County southeast from the San Bernardino Mountains to the Salton Sea. The valley is approximately 15 miles (24 km) wide along most of its length.

The Coachella Valley is bounded on the west by the San Jacinto Mountains and the Santa Rosa Mountains and on the north and east by the Little San Bernardino Mountains. The highest peaks in the surrounding mountains are Mt. San Jacinto (10,804') and Mt. San Geronio (11,499'). Elevations on the Valley floor range from 1600' above sea level at the upper end of the Valley near Palm Springs to 250' below sea level at the Salton Sink.

The Salton Sea today covers over 380 square miles of surface water making it the largest lake in California. Its width varies from 9 to 15 miles and is about 35 miles long. The sea contains 115 miles of shoreline. Through evaporation (leaving the minerals and salts to become concentrated), the Salton Sea is about one-third saltier than the ocean. The surface level of the Salton Sea is about 232 feet below sea level. The Sea varies in depth with the gentle valley slope to about 51 feet deep. Because of the abundant fish life in the Sea, the waters have become home to numerous bird species.

The Coachella Valley is part of the Whitewash watershed that drains into the Salton Sea. Approximately 7% of the flow into the sea is from the Coachella Valley. Because the lake is shallow, has no outlet and receives salts and water from agricultural drainage, salinity and nutrient levels are rising and the sea has been designated as an impaired body of water by the State Regional Water Quality Control Board.

The San Andreas Fault crosses the valley from the Chocolate Mountains in the southeast corner and along the centerline of the Little San Bernardino Mountains. The fault is easily visible along its northern length as a strip of greenery against an otherwise bare mountain. The Chocolate Mountains are home to a United States Navy live gunnery range and are mostly off-limits to the public.

Climate Rainfall is extremely limited with average annual precipitation rates of 2 to 4". Most rainfall occurs during winter months though high intensity rains can sometimes occur during the mid-summer producing flash floods and severe erosion.

Annual temperature variations in the Coachella Valley are extreme with occasional winter lows in the mid 20s (F) and occasional summer highs in the mid 120s (F). The mean annual temperature is 74(F). The Valley offers a 300 day frost free growing season with some crops grown successfully through the entire year.

Seasonal winds can be a problem in some regions of the Valley. The valley's northwest entrance from the Inland Empire along Interstate 10 is known as the "San Geronio Pass" and is one of the windiest places on earth. Cool coastal air is forced through the pass and mixes with the hot desert air, making the San Geronio Pass one of only three ideal places in California for steady, wind-generated electricity. Hundreds of huge wind turbines spread across the desert and hills on either side of the highway greet visitors as they approach the crest of the pass and have become somewhat of a symbol of the area. The state's other wind farms are in the Tehachapi Pass between Mojave and Bakersfield and in the Altamont Pass near Livermore. Windstorms most frequently occur in the late spring and can cause extensive damage to unprotected soils, plants, structures and vehicles. Airborne dust carried by these winds can compromise air quality and respiratory health.

The Coachella Valley was once dominated by nearly 100 square miles of sand dunes; today there is fewer than 5% of that habitat remaining in viable condition. Over the years, the lure of mild winter temperatures and beautiful scenery has resulted in an explosion of human development. As canyons filled with houses, development pushed into the valley's center, blocking the vital sand movement processes that keep the dunes alive. Today the majority of the remaining, viable dune habitat is contained in the Coachella Valley Preserve system. The focus of the preserve system is the protection of the desert sand dunes, but to accomplish that, sand source areas and sand movement corridors also need to be protected. The Coachella Valley Preserve system was also designed to protect an endemic, threatened animal, the Coachella Valley fringe-toed lizard, *Uma inornata*. To protect the entire dune ecosystem, several additional habitats were included. These additional habitats are creosote bush scrub, mesquite hummocks, and eleven different palm oases. It is the palm oases that lure the many visitors to the Coachella Valley Preserve every year. These verdant, lush habitat islands, often with pools of water or small streams, are in stark contrast to the otherwise severe brown desert.

Coachella Valley soils originate from two main sources: sediment deposits from ancient Lake Cahuilla and weathered rock from the surrounding mountains. Deposited by wind and water, these parent materials combine to create a large variety and complex distribution of distinctive soil types throughout the Valley. In general, soils at lower elevations of the Valley floor are composed of fine textured sedimentary materials that are classified as silts and silty loams. Much of Coachella Valley's production agriculture is found on these fine textured soils. They have greater water holding capacities than the coarser sands, gravels and rocks that are found at higher elevations near the surrounding mountains and alluvial fans.

Water is brought into the region by artesian wells and by the Coachella Canal (123 miles long). The Coachella Canal, a concrete-lined aqueduct built between 1938 and 1948 as a branch of the All-American Canal, brings water from the Colorado River to the valley. This canal system irrigates more than 630,000 acres and has greatly increased crop yield in the area; however, problems of drainage and salinity exist. The All-American Canal is part of the federal irrigation system of the Hoover Dam. Built between 1934 and 1940 across the Colorado Desert, the canal is entirely within the United States. The Imperial Dam, northeast of Yuma, Arizona, diverts water from the Colorado River into the All-American Canal, which runs west to Calexico, California. The Colorado River Aqueduct, which provides drinking water to Los Angeles and San Diego, crosses the northeast end of the valley along the base of the Little San Bernardino Mountains.

Supply List for *Exploring the Geography of the Coachella Valley*

Lesson 1: Location Match-Up

- blank sheet of unlined paper for each student
- Set of *Matching Vocabulary Cards* (Include a card for your local city)
- Pocket Chart (optional)
- *Cut and Match* (Handout 1.1) for every 2-3 students (Include your local city)
- Scissors and glue sticks for every 2-3 students
- 12" x 18" construction paper for every 2-3 students
- 3" x 5" note cards – 7 for each student (optional)
- *Cut and Match* (Handout 1.1) for each student (optional)
- *Reflections: Our Communities* or a similar 3rd grade history textbook for every 2-3 students

Lesson 2: Looking at Earth

- *Matching Vocabulary Cards* (from Lesson 1)
- Pocket chart (optional)
- *Fill in the Blanks* (Handout 2.1) for each student
- AAA map of *Palm Springs – Indio area* (or a similar map) for every 2-3 students
- magnifying glass for every 2-3 students (optional)
- Globe (if possible, one globe for every 2-3 students)
- *Reflections: Our Communities* or a similar 3rd grade history textbook for every 2-3 students (Note page numbers are given for the *Reflections* text)

Lesson 3: Where I Live

- FLIP Book (4 sheets of 8 ½" x 11" light color copier paper) for each student
- List of each student's home address
- AAA map of *Palm Springs – Indio area* (or a similar map) for every 2-3 students
- *Reflections: Our Communities* or a similar 3rd grade history textbook for every 2-3 students
- envelope and first-class stamp for each student (optional)

Lesson 4: Geographic Terms and Definitions

- Set of photographs of local geographic features and definition cards
- Raised relief map of Western United States 1:250,000 Santa Ana (optional) by Hubbard Scientific Inc. Available locally at Desert Map & Ariel Photo (Palm Desert)
- *Fill in the Blanks* (Handout 2.1) for each student
- *Geographic Terms* (Handout 4.1) and *Definitions* (Handout 4.2) for each student
- scissors for every 2-3 students
- envelope for each student (to keep cut copies of Handouts 4.1 and 4.2)
- Pocket Chart (optional)
- *Geographic Terms* (Handout 4.1) and *Definitions* (Handout 4.2) for each student (optional)
- Envelope for each student to keep cut outs of Handout 4.1 and Handout 4.2
- 3" x 5" note cards – 9 for each student (optional)
- *Geography From A to Z* by Jack Knowlton (optional)

Lesson 5: Right Here in the Coachella Valley

- envelopes from Lesson 4 with cut outs of Handout 4.1 and Handout 4.2
- 12"x18" construction paper for each student
- glue sticks for every 2-3 students
- AAA map of *Palm Springs – Indio area* (or a similar map) for every pair of students
- *Desert Recreation Region* map for every pair of students
- Raised relief map of Western United States 1:250,000 Santa Ana (optional) by Hubbard Scientific Inc. Available locally at Desert Map & Ariel Photo (Palm Desert)
- *Right Here in the Coachella Valley* for each student (Handout 5.1)
- magnifying glass for every 2-3 students (optional)

Lesson 6: Geographical Features of Coachella Valley

- *Geography Terms Quiz* for each student (Handout 6.1).
- 12" x 18' white construction paper for each student
- *Geographical Features of Coachella Valley* (Handout 6.3) for each student
- ruler and set of colored pencils for every 2-3 students
- *Geographical Features of Coachella Valley* (Handout 6.2) (For a color copy, refer to the back cover of this curriculum guide)
- Raised relief map of Western United States 1:250,000 Santa Ana (optional) by Hubbard Scientific Inc. Available locally at Desert Map & Ariel Photo (Palm Desert)
- magnifying glass for every 2-3 students (optional)
- variety of postcards showing geographical features to use as samples (optional)
- 4" x 6" sheet of white construction paper for each student (optional)

Lesson 7: Human-Made Features of Coachella Valley

- AAA map of *Palm Springs – Indio area*, or a similar map, for every 2-3 students
- *Desert Recreation Region* map for every pair of students
- Raised relief map of Western United States 1:250,000 Santa Ana (optional) by Hubbard Scientific Inc. Available locally at Desert Map & Ariel Photo (Palm Desert)
- magnifying glass for every 2-3 students (optional)
- 12" x 18' white construction paper for each student
- ruler and set of colored pencils for every 2-3 students

Lesson 8: Lesson 8: Communityville

- *Communityville a Long Time Ago* (Handout 8.1), *Communityville Growing* (Handout 8.2) and *Communityville Today* (Handout 8.3) for each student. It is recommended each handout be duplicated on a different color paper.
- magnifying glass for every 2-3 students (optional)
- *Changes in the Local Area* (Handout 8.4) for each student (optional)

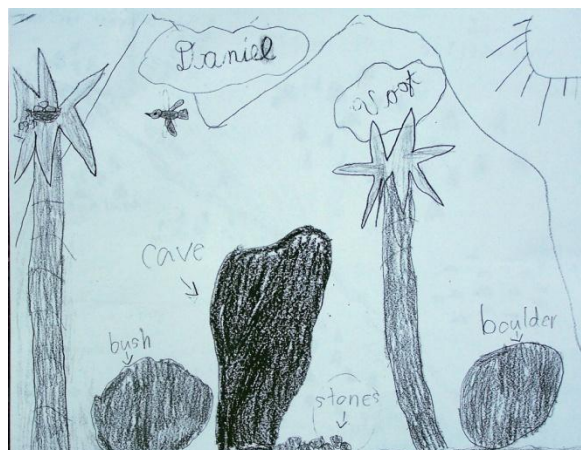
Lesson 1: Location Match-Up

Focus Question: What words are used to describe where we live?

Activity #1 Pre-assessment

Materials needed: For each student, a blank sheet of white paper.

As an individual pre-assessment, ask students to **quickly draw from memory, a map of the Coachella Valley**. At this time, the students' maps will be limited. It is common for students to draw a picture rather than a map. Refer to the sample of student work shown to the right and below.

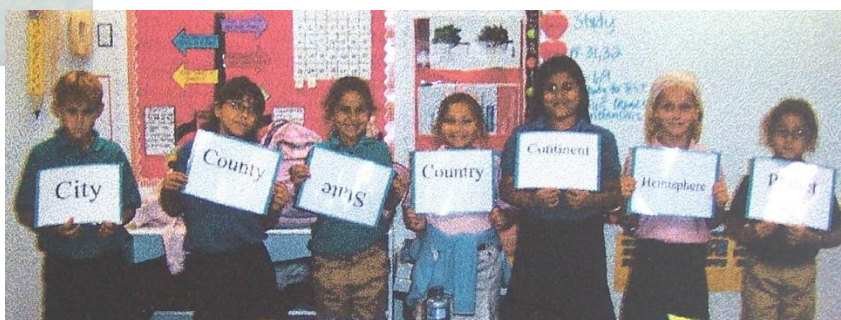


Retain the maps and compare them with maps completed later in the unit. The comparison will help document the learning that occurred during the unit

Activity #2 Matching Vocabulary Cards

Materials needed: Set of *Matching Vocabulary Cards* (Handout 1.1) as described below

Step 1 Using a set of *Matching Vocabulary Cards* with the following terms: city, county, state, country, continent, hemisphere, and planet, help students rank the words according to size, beginning with city and ending with planet.



Step 2 Using a set of *Matching Vocabulary Cards* with the name of your city, Riverside (county), California, United States, North America, Northern and Western (hemisphere), and Earth, help students match the words with the word cards used in Step 1. If available, practice matching the vocabulary cards using a pocket chart.

Activity #3 Cut and Match

Materials needed: For each pair of students, a copy of *Cut and Match* (Handout 1.1); scissors; glue sticks; sheet of 12" x 18" of construction paper.

Procedure

Step 1 Working in pairs, students cut out each word card on *Cut and Match* (Handout 1.1) and match the words. For example, match country and United States; continent and North America, etc.

Once the matches are checked for accuracy, students glue the matching word cards next to each other on the construction paper.

Assessment

It is recommended you save student work together into an ***Atlas of the Coachella Valley***. Throughout the unit, include individual student work in his/her atlas. Student work to be assessed from this lesson includes:

- Pre-assessment map of the Coachella Valley

Extended Activities

Cut and Match Flash Cards

Materials needed: For each student, a copy of *Cut and Match* (Handout 1.1) Add the name of your city in the blank box; scissors; glue sticks; seven 3" x 5" note cards; envelope for storage.

To help students master the "Where I Live" quiz administered in Lesson 4, it is recommended each student make a set of "Where I Live" flash cards using the handout, *Cut and Match* (Handout 1.1). Demonstrate to students how to study their flash cards.

Satellite Maps

If access to computers is available, use Google maps to zoom in and zoom out to locate the local community, California, North America, the Northern and Western Hemispheres and the earth.

city	
county	Riverside
state	California
nation	United States
continent	North America
hemisphere	Northern and Western
planet	Earth

Lesson 2: Looking at Earth

Focus Question: Where is our community located?

Activity #1 The Order of Things

Materials needed: *Matching Vocabulary Cards* from Lesson 1

Procedure: Using the *Matching Vocabulary Cards*, repeat Activity #2 from Lesson 1.

Activity #2 Using Maps to “Fill in the Blanks”

Materials needed: a set of the *Vocabulary Matching Cards*; a pocket chart; for each student, a copy of *Fill in the Blanks* (Handout 2.1); For each 2-3 students, a magnifying glass (optional) and a map of the local community such as the AAA map of *Palm Springs – Indio area*; one or more globes; 10 copies of *Reflections: Our Communities* or a similar 3rd grade history textbook (Note pages given are for the *Reflections* text)

Procedure

Step 1 Distribute a copy of *Fill in the Blanks* (Handout 2.1) to each student. Using the *Matching Vocabulary Cards* and the pocket chart (optional), display the card for “city” and the card with the name of the local city. Have students write the name of their city in the space next to “city” on the handout *Fill in the Blanks* (Handout 2.1).

Place students in groups of 2-3 and give each group a copy of a local map, such as the AAA map of *Palm Springs – Indio area*. Provide time for students to work in pairs to closely study the maps using magnifying glasses, if available. Help students locate their school and home neighborhood.

Step 2 In the pocket chart, display the cards for “county” and for “Riverside.” Explain that a **county** is a section of a state. California has 58 counties. Using *Reflections: Our Communities* or a similar 3rd grade history textbook, have students turn to page 282 and locate Riverside County. Properly write its name on Handout 2.1.

Step 3 In the pocket chart, display the cards for “state” and for “California.” Have students locate and discuss a map of the State of California (pages R12 and R13) and properly write its name on Handout 2.1.

Step 4 In the pocket chart, display the cards for “nation” and for “United States.” Locate and discuss a map of the United States (pages R-8 to R11) and properly write its name on Handout 2.1. Find California on the map of the United States.

Step 5 In the pocket chart, display the cards for “continents” and for “North America.” Explain to students that **continents** are the largest land masses on the Earth. Earth’s continents, from the largest to the smallest, are Asia, Africa, North American, South America, Antarctica, Europe, and Australia. Locate and discuss a map of the continents (page I-10 in the front of the text). Locate the North American continent and properly write its name on Handout 2.1. Identify the approximate location of the United States and California.

Step 6 In the pocket chart, display the cards for “hemispheres” and for “Northern and Western Hemispheres.” Show the students a globe and explain that a **globe** is a model of the earth. Because of its shape, a globe can only show one side of the earth at once. Explain to students that the **equator** is an imaginary line that divides the earth into two equal halves, or **hemispheres**. Locate the equator (pages I-10 and I-11). Explain that the Northern Hemisphere is north of the equator and the Southern Hemisphere is south of it. Locate the **Northern Hemisphere** and properly write its name on Handout 2.1. Identify the approximate location of the U.S. and California on the western part of the United States.

Step 7 Explain to students that the **prime meridian** is another imaginary line that divides the earth into halves; the Western Hemisphere and the Eastern Hemisphere. Locate these two hemispheres (page I-11) and pages (R6-R7). Locate the **Western Hemisphere** and properly write its name on Handout 2.1 in the same box as the Northern Hemisphere. Identify the approximate location of the United States and California

Step 8 In the pocket chart, display the cards for “planet” and for “Earth.” Look again at the globe. Explain that the earth is the name of the planet on which we live. On Handout 2.1, write the word “Earth” in the box next to planet.

Look at a map of The World (pages R2 to R5). Explain to students that a **map** is a drawing that shows all of or part of the Earth on a flat surface.

Step 9 Advise students that during Lesson 4 they will be expected to be able to write from memory, the name of each location listed on *Fill in the Blanks* (Handout 2.1). For example, for city, each student must correctly write the name of the city where he/she lives. For county, write the name of the county, etc. To be marked correct, each answer must begin with a capital letter and be spelled correctly. To reach mastery, the student’s score must be 100%. If not already done, it is recommended students construct the *Cut and Match Flash Cards* described in the Extended Activities for Lesson 1.

Assessment

It is recommended student work be kept in each student’s *Atlas of the Coachella Valley* begun during Lesson 1. Student work to be assessed from this lesson includes:

- *Fill in the Blanks* (Handout 2.1)

Extended Activities

Satellite Maps

If not done as an Extended Activity during Lesson 1, it is recommended you use Google maps to zoom in and zoom out to locate the local community, California, North America, the Northern and Western Hemispheres and the earth.

Cut and Match Flash Cards

If not constructed during Lesson 1, it is recommended students construct the *Cut and Match Flash Cards*. Refer to the directions in Lesson 1.

Fill in the Blanks

Name_____

Date_____

city	
county	
state	
nation	
continent	
hemisphere	
planet	

Lesson 3: Where I live

Focus Question: How do I describe where I live?

Activity #1 FLIP Book – You will FLIP over this!

Materials needed: For each student, 4 sheets of 8 ½" x 11" copier paper – white or a light color; variety of maps (Refer to the Lesson 2); list of each student's home address

Preparation Directions

- From the bottom of sheet #1, measure up 1 inch and draw a line. Bring the top down to the line and fold.
- From the bottom of sheet #2, measure up 2 inches and draw a line. Bring the top down to the line and fold. Place sheet #1 inside of sheet #2.
- From the bottom of sheet #3, measure up 3 inches and draw a line. Bring the top down to the line and fold. Place sheets #1 and #2 inside of sheet #3.
- From the bottom of sheet #4, measure up 4 inches and draw a line. Bring the top down to the line and fold. Place sheets #1, #2 and #3 inside of sheet #4.

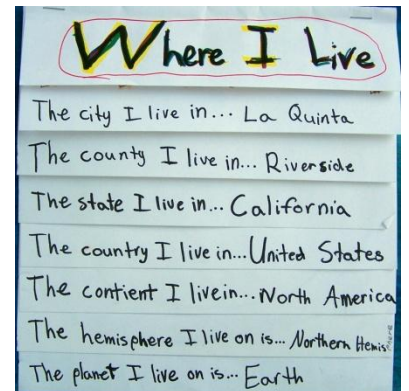
You have now assembled an 8 page Flip Book. Staple it at the fold – a long stapler works best. Lightly number the pages. Begin with page 1 on top.

Procedure

Step 1 Have students construct a Flip Book of "Where I Live" using the following directions.

NOTE: It is recommended you help students complete the writing on each page **BEFORE** they do the illustrations for each page.

- Write a title of your book, **Where I Live**, and your name on page 1.
- On the bottom of page 2, write, "The city I live in is Rancho Mirage (or write the name of the correct city of the student's residence)." Draw a map to show your street, including where you live. Write your address.
- On the bottom of page 3 write, "The county I live in is Riverside." Draw a map to show the rectangular shape of Riverside County. Put a dot where you live.
- On the bottom of page 4 write, "The state I live in is California." Draw an outline map of California. Put a dot where you live.
- On the bottom of page 5 write, "The country I live in is the United States of America." Draw an outline map of the United States. Put a dot where you live.
- On the bottom of page 6 write, "The continent I live on is North America." Draw an outline map of North America. Put a dot where you live.



- On the bottom of page 7 write, “The hemispheres I live on are the Northern Hemisphere and the Western Hemisphere.”
- On the bottom of page 8 write, “The planet I live on is Earth.” Draw a picture of the Earth.

Step 2 Provide a variety of maps and encourage students to refer to them when doing their illustrations. For example, to draw a map of Riverside County, refer to *Reflections: Our Communities* page 282 or a similar 3rd grade history textbook. Note that Riverside County is shaped like a rectangle. On page 3 of the FLIP BOOK, draw a map of Riverside County.

On page 4, note that California is shaped like a lengthwise rectangle in the north and like a rectangle turned sideways in central California. For the United States, encourage students to study the outline of the U.S. and draw its approximate shape. To develop spatial context, geographers say it is better for students to draw the shapes free-hand than to be given a printed copy that is cut and glued on the page.

As students have time during the next week, have them work on the FLIP BOOK illustrations.

Step 3 Remind students that during the next lesson they will be expected to be able to write from memory, the name of each location listed on *Fill in the Blanks* (Handout 2.1). To be marked correct, each answer must begin with a capital letter and be spelled correctly. To reach mastery, the student’s score must be 100%. Encourage them to practice for the quiz.

Assessment

It is recommended student work be kept in each student’s *Atlas of the Coachella Valley* begun during Lesson 1. Student work to be assessed from this lesson includes:

- Flip Book of “Where I Live”

Extended Activities

Reading a Textbook

Using the Table of Contents for *Reflections: Our Communities* or a similar 3rd grade history textbook, have students locate the page numbers for Unit 1, Chapter 1, and Lesson 1 *Finding Your Location* (pages 10 to 13). Preview the lesson by reading the title and the sub-topics. Note how the size of the font changes to note importance. Review each Reading Check question, read the Summary, and look over the Review section. Read the text as students follow along with you. Page 12 tells about Weaverville, California. Ask students what the text would say if it was about our community? What street would you show?

Send a Letter

Materials needed: an envelope for each student and a first class stamp

To practice the Common Core Standards for Conventions of Standard English, have each student address an envelope to himself/herself using proper capitalization and commas in the address. Enclose a surprise note in each envelope and mail the letters.

Lesson 4: Geographic Terms and Definitions

Focus Question: How do I define geographic terms?

Activity #1 “Where I Live” Quiz

Materials needed: For each student, a copy of *Fill in the Blanks* (Handout 2.1).

Procedure

From memory, students complete the *Fill in the Blanks* (Handout #2.1). To be marked correct, each answer must begin with a capital letter and be spelled correctly. To reach mastery, the student’s score must be 100%. For students who do not attain mastery, have them study and retake the quiz the following week.

Activity #2 Geographic Terms and Definitions Match-Up

Materials needed: Set of photographs of local geographical features with definitions of the geographic terms; for each student, a copy of *Geographic Terms* (Handout 4.1) and *Definitions of Geographic Terms* (Handout 4.2), an envelope, and a sheet of 12”x18” construction paper; for each pair of students, scissors and a glue stick; raised relief map of Western United States 1:250,000 Santa Ana (optional); magnifying glasses (optional)

Procedure

Step 1 Display photographs of local geographical features, including the definition for each geography term.

Step 2 If available, display a copy of the raised relief map Western United States 1:250,000 Santa Ana. Locate the San Jacinto Mountains, the Santa Rosa Mountains, the Little San Bernardino Mountains, the Indio Hills, Coachella Valley, a variety of canyons, the Whitewater River and the Salton Sea.

Step 3 Distribute copies of *Geographic Terms* (Handout 4.1) and *Definitions of Geographic Terms* (Handout 4.2). Have students cut out each geographic term and each definition of the geographic terms. Students work individually to match each geographic term with its definition.

Review the photographs again and have students check their definition match-up.

Step 4 Tic-Tac-Toe Have each student select 9 geography word cards and randomly arrange them face-up in a 3 by 3 grid on his/her desk. As you read a definition, the student turns over his/her matching vocabulary card. When a student turns over 3 in a row vertically, horizontally, or diagonally, he/she calls out “Tic-Tac-Toe). Verify by having the student read his/her terms aloud. Continue to play for blackout (all 9 cards are turned over).

SAVE the cut-outs in an envelope for the next lesson.

Assessment

Retain student work in each student's *Atlas of the Coachella Valley* begun during Lesson 1. Student work to be assessed from this lesson includes:

- *Fill in the Blanks* quiz (Handout 2.1)

Extended Activities

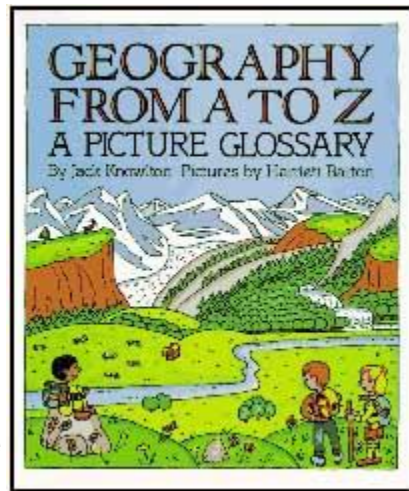
Geographic Terms and Definitions Flash Cards

Materials needed: For each student, a copy of *Geographic Terms* (Handout 4.1) and *Definitions of Geographic Terms* (Handout 4.2); scissors; glue sticks; nine 3" x 5" note cards; envelope for storage.

To help students master the "*Geography Terms*" quiz administered in Lesson 6, it is recommended each student make a set of flash cards using the handouts *Geographic Terms* (Handout 4.1) and *Definitions of Geographic Terms* (Handout 4.2). Demonstrate to students how to study their flash cards.

Read *Geography From A to Z* by Jack Knowlton, focusing on pertinent local landforms found in Handout 4.1. When students hear a definition read, they hold up the card with matching geographic term. The teacher checks the cards for accuracy.

Geography Guessing Game: Tape or clip a geographic term word card (Handout 4.1) on the backs of different students. Students walk around the room and try to guess what term is on their back by asking their classmates questions that require a "yes" or "no" answer. When the term is guessed, the students may place the card on the front of their shirts and assist the remaining students by answering their questions. Have Handout 4.2 or the book *Geography From A to Z* available for student reference.



Geographic Terms

mountain	canyon	hill
mountain range	valley	sea
oasis	desert	river

Definitions of Geographic Terms

a very dry and desolate land that receives little or no rainfall – most are covered with rocks and stones	a long, connected chain of mountains and hills	an isolated green spot in a desert where water flows up from an underground spring
a rugged, upthrust mass of rock that looms high above the surrounding land	a deep, narrow valley with steep rocky sides; carved by running water	a gently sloping depression between hills or mountains
a long, large stream	an elevated, rounded point of land that is lower and smaller than a mountain	a large body of salt water that is smaller than an ocean

Lesson 5: Right Here in the Coachella Valley

Focus Question: What geographical features do we have in the Coachella Valley?

Activity # 1 Geography Match-Ups

Materials needed: Envelopes from Lesson 4 with the cut-out geography terms and definitions; for each student, a sheet of 12"x18" construction paper; glue sticks

Procedure

On a sheet of 12"x18" construction paper, students paste each geographic term together with its matching definition.

Save the *Geography Match-Ups* to include in the *Atlas of the Coachella Valley* assembled at the end of the unit.



Activity #2 Right Here in the Coachella Valley

Materials needed: for each student, a copy of *Right Here in the Coachella Valley* (Handout 5.1); for every 2-3 students a copy of the AAA map of Palm Springs – Indio area or a similar map; *Desert Recreation Region* map (Handout 5.2); a raised relief map of Western United States 1:250,000 Santa Ana (optional); and magnifying glasses (optional)

Procedure Using the AAA map of Palm Springs – Indio area, the Desert Recreation map (Handout 5.2); a raised relief map of Western United States 1:250,000 Santa Ana (optional) or a similar map, and a magnifying glass (optional), have students work in pairs to find a sample of each geographic term listed on *Right Here in the Coachella Valley* (Handout 5.1) Neatly record the full name of each geographical feature using correct capitalization and proper spelling. See the chart listed above and below for a sample of responses. Have students share their results.

Right Here in the Coachella Valley	
Geographic Features	Examples in the Coachella Valley
Mountain	Santa Rosa Mountain
Mountain Range	Santa Bernardino
Valley	Coachella Valley
Oasis	Shoshone Oasis
Hill	Black Hill
Desert	Anza Borrego Desert
Canyon	Ion Canyon
Lake	Cahuilla
Sea	Salton Sea
River	White Water River

Right Here in the Coachella Valley

(Answers will vary)

Geographic Terms	Examples from the Coachella Valley
mountain	Mt. San Jacinto, Mt. San Gorgonio
mountain range	Santa Rosa Mountains
valley	Coachella Valley
hill	Indio Hills
river	Whitewater River
oasis	Thousand Palms Oasis

Assessment

It is recommended student work be kept in each student's *Atlas of the Coachella Valley* begun during Lesson 1. Student work to be assessed from this lesson includes:

- Geography Match-Ups (Activity #1)
- Right Here in the Coachella Valley (Activity #2, Handout 5.2)

Teacher Note: This is a good time to refer to the section of this unit titled *Geography of the Coachella Valley*.

Extended Activity

Daily Weather Log

(Definitions: Climate is defined here as the meteorological conditions, including temperature, precipitation and wind, that characteristically prevail in a particular region. Weather is the state of the atmosphere at a given time and place. A region is a large, indefinite portion of the earth's surface. In this unit, the region is defined as the Coachella Valley and the surrounding area.)

Discuss the weather and climate of the Coachella Valley. What are the temperature ranges? How much precipitation falls annually? What are the wind conditions? Ask students to describe how the local environment changes as the seasons change. Explain that knowing the environment of an area throughout the year, such as climate, availability of water, types of plants and animals is important in understanding the lifestyles of the people.

Have students keep a **Daily Weather Log** of the temperature, relative humidity, precipitation, and the air quality index. *The Desert Sun* newspaper includes a daily weather map of the Coachella Valley. (Additional topics to include are wind velocity and direction and dew point.)

Date/Time Location	Temperature	Relative Humidity	Precipitation	Air Quality Index

How does the climate affect our lives? (This activity is designed to help students develop observation skills through the observation of how things are related to one another.)

Begin a chart, "How the Climate Affects Our Lives." Ask questions such as:

- What impact does the climate of our local area have on our daily activities? (clothing, shelter, etc.) Add observations to the chart.
- How do we change our daily life if we have a hot day? a cold day?
- What do we do differently when it is raining?
- What impact does a windy day have on us? (i.e. Santa Ana winds)
- How does living in the desert affect our lives?
- How do these factors affect the physical features in the environment? (e.g., winds).

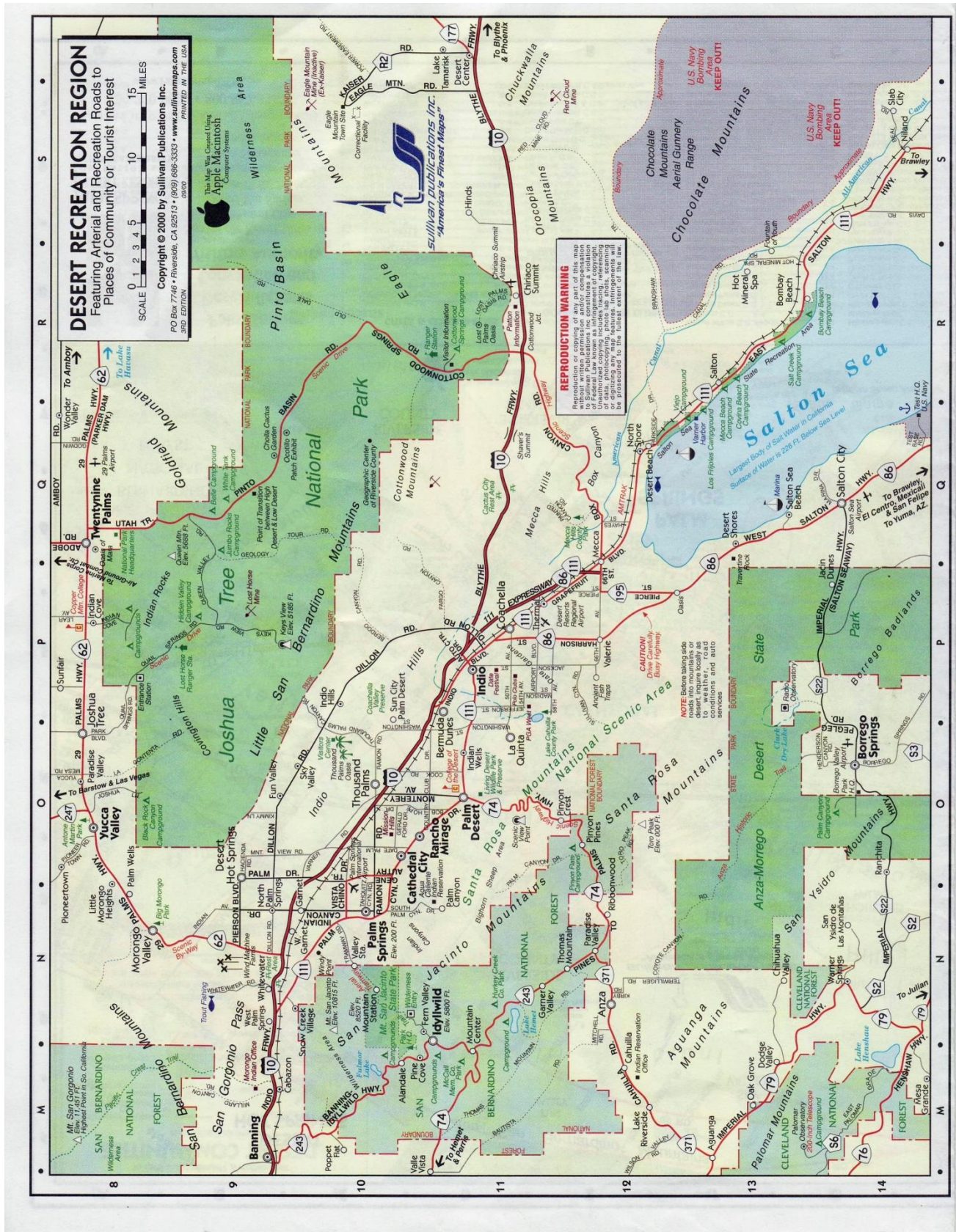
Right Here in the Coachella Valley

Using a map of the Coachella Valley, look for specific names of geographical features. Neatly record the full name of each geographical feature on the chart. Be sure to use proper capitalization and spelling. In the blank space, select a geographical feature of your choice. Share your results.

Name: _____ Date: _____

Geographic Terms	Examples in the Coachella Valley
mountain	
mountain range	
valley	
oasis	
hill	
desert	
canyon	
sea	
river	

Desert Recreation Region



Lesson 6: Geographical Features Map of the Coachella Valley

Focus Question: How do I draw a map of the Coachella Valley?

Activity #1 Geographic Terms Quiz

Materials needed: For each student, a copy of *Geography Terms Quiz* (Handout 6.1).

Procedure

From memory, students complete the *Geographic Terms Quiz* (Handout #6.1). To be marked correct, each answer must be spelled correctly. To reach mastery, the student's score must be 100%. For students who do not attain mastery, have them study and retake the quiz.

Activity #2 Geographical Features Map of the Coachella Valley

Materials needed: For each student, a 12" x 18' white paper and a copy of *Geographical Features of Coachella Valley* (Handout 6.3); rulers, colored pencils; a raised relief map of Western United States 1:250,000 Santa Ana (optional)

Procedure

Step 1 Using a ruler, model for students how to draw a Symbol Key Box on the lower left corner of the construction paper. The box should measure 3 inches wide and 2 inches tall. On the top right side of the paper, use capital letters to write a title for the map (not shown).

Step 2 Using the *Map of the Geographical Features of Coachella Valley* (Handout 6.2 and shown below) as a guide, model how to draw a geographical features map of the Coachella Valley. Begin in the upper left hand corner and draw the Whitewater River to the lower right-hand corner. Draw a portion of the Salton Sea. (Refer to the diagram shown below.) In the



symbol key box, create a symbol for a "river" and one for the "sea."

Add upside-down V's for mountains to the Symbol Key Box. Draw and neatly label Mt. San Geronimo; the San Bernardino Mountains; the Little San Bernardino Mountains; Mt. San Jacinto; the San Jacinto Mountains; and, the Santa Rosa Mountains.

Add hill-shaped semicircles to the Symbol Key Box. Draw and label the Indio Hills.

Label the Coachella Valley alongside the Whitewater River.

Refer to *Geographical Features of Coachella Valley* (Handout 6.3) for a sample list of other geographical features to include on the map. Adapt the list as desired.

Assessment

It is recommended student work be kept in each student's *Atlas of the Coachella Valley* begun during Lesson 1. Student work to be assessed from this lesson includes:

- Geographic Terms Quiz (Activity #1)
- Geographical Features Map of Coachella Valley (Activity # 2)

Extended Activities

Physical Features Postcard (Writing and Language Standards)

Materials needed: Variety of postcards showing geographical features to use as samples; for each student, a 4" x 6" sheet of white construction paper

Step 1 Share a variety of postcards with students. Together, analyze the format and punctuation of the front and back of each postcard.

Step 2 Have students write a 4" x 6" postcard to a friend telling him/her what they have learned about the physical features of the Coachella Valley using concrete sensory details to present and support unified impressions of the place. (Common Core Standards: Writing Informative text to examine a topic and convey ideas and information clearly; Writing Application Standard 2.2)

The left side of the postcard should include the date, proper salutation, body, closing, and signature. (Writing Application Standard 2.3b) Students should use commas in the date. (Common Core Language Standards – Conventions of Standard English; Written Language Conventions 1.6) The text should show an awareness of the knowledge and interests of the audience and establish a purpose and context. (Writing Application Standard 2.3 a)

Step 3 The right side of the postcard should include the name and address of the person to whom the post card is addressed. Students should capitalize city and state. (Common Core Language Standards – Conventions of Standard English; Written Language Conventions 1.5) Students should use commas in the address. (Common Core Language Standards – Conventions of Standard English; Written Language Conventions 1.6)

Step 4 On the front side of the postcard, students draw a local landform or scene showing the physical features of the region.

Description of Physical Features – a Written Paragraph

As a review, ask each student to make a list, from memory, of at least five physical features of the Coachella Valley. Have each student select one physical feature and write a paragraph to identify and describe the physical feature. The paragraph should include a topic sentence; simple supporting facts and details (Writing Strategies Standard 1.1); and, concrete sensory details to present and support unified impressions of the place. (Writing Application 2.2)

Relief Map of the Coachella Valley For directions, refer to page 41.

Geographic Terms Quiz

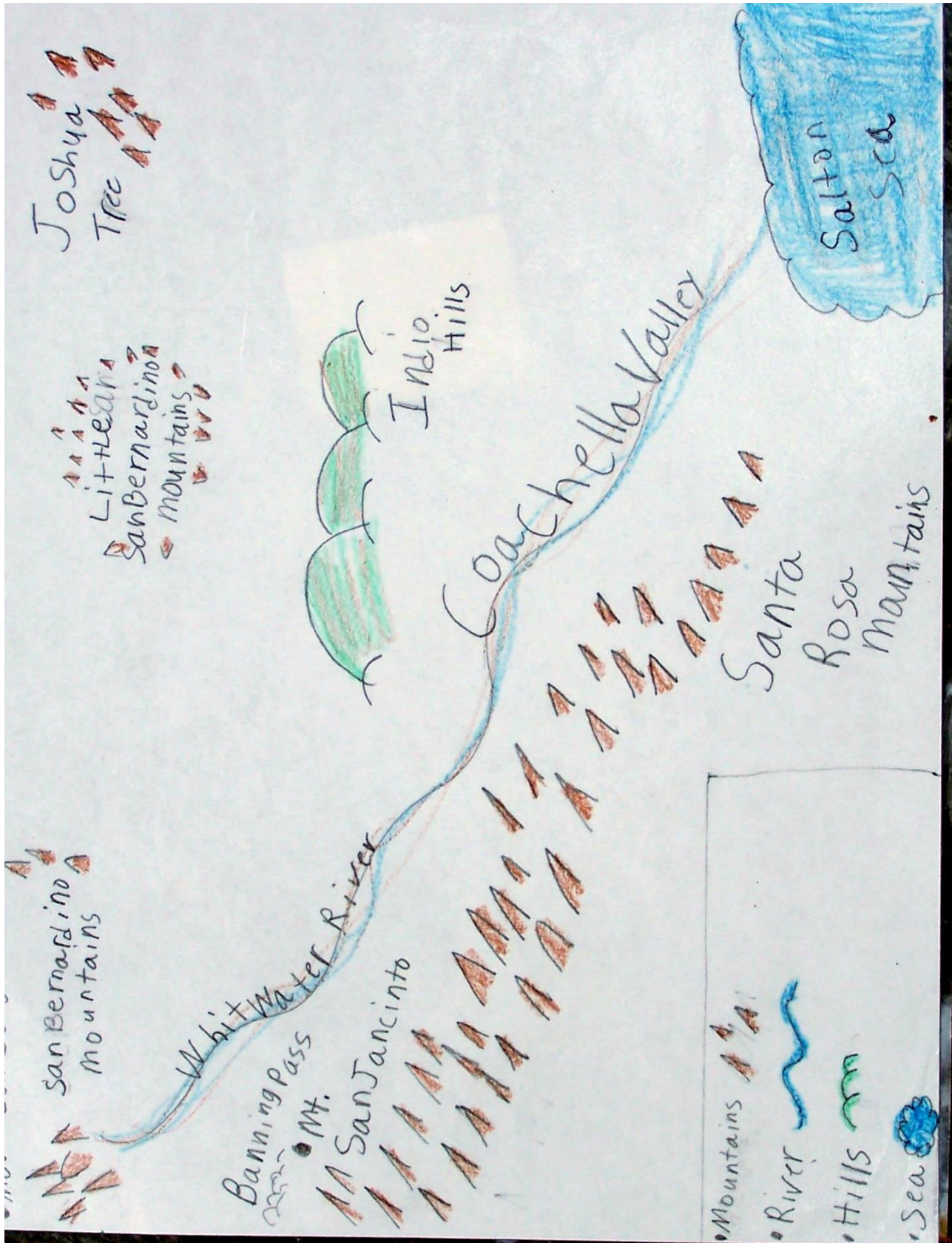
Name _____

Date _____

Write each word next to its definition: mountain, canyon, hill, mountain range, valley, sea, oasis, desert, river

a large body of salt water that is smaller than an ocean	
a rugged, upthrust mass of rock that looms high above the surrounding land	
an isolated green spot in a desert where water flows up from an underground spring	
an elevated, rounded point of land that is lower and smaller than a mountain	
a long, connected chain of mountains and hills	
a deep, narrow valley with steep rocky sides; carved by running water	
a long, large stream	
a gently sloping depression between hills or mountains	
a very dry and desolate land that receives little or no rainfall – most are covered with rocks and stones	

Geographical Features of Coachella Valley



Geographical Features of Coachella Valley

Include the following geographical features on your
landform map of Coachella Valley

Coachella Valley

Salton Sea

Santa Rosa Mountains

San Jacinto Mountains

Mt. San Jacinto Peak 10,804'

Mt. San Gorgonio Peak 11,499'

Little San Bernardino Mountains

Indio Hills

San Gorgonio Pass

Whitewater River

Optional Features to Include:

Colorado Desert

Indian Canyons (Palm Canyon and
Andres Canyon)

Thousand Palms Oasis

Lake Cahuilla

Morongo Valley

Yucca Valley

Morongo Basin

Imperial Valley

Superstition Hills 262'

Superstition Mountain 759'

San Andres Fault

Orocopia Mountains

Chuckwalla Mountains

Mecca Hills

Cottonwood Mountains

Eagle Mountains

Chiriaco Summit 1735'

Pinto Basin

Toro Peak 8716'

Lesson 7: Human-Made Features of Coachella Valley

Focus Questions: What are the human-made features of Coachella Valley?

Activity #1 Human-Made Features of Coachella Valley

Materials needed: for every 2-3 students a copy of the AAA map of Palm Springs – Indio area or a similar map; *Desert Region Recreation* map (Handout 5.2); a raised relief map of Western United States 1:250,000 Santa Ana (optional); and magnifying glasses (optional)

Procedure

Step 1 Explain to students during this lesson we will learn how people change the local landscape. A **human-made feature** is something people have built, such as a building, a bridge, or a road. Our school and our homes are all human-made features.

Ask students, “What are some of the ways people have changed our local landscape?” Generate a list of human-made features. If available, display photographs of human-made features found in the Coachella Valley.

Using copies of the AAA map of *Palm Springs – Indio area*; a raised relief map of Western United States 1:250,000 Santa Ana or similar maps, and a magnifying glass (optional), ask pairs of students to make a list of at 5 specific human-made features that can be found in the Coachella Valley. Examples include: roads (Washington Street); highways (Highway 111); railroads (Southern Pacific); canals (Coachella Canal); aqueducts (Colorado River Aqueduct); buildings (The McCallum Theater); and, bridges (Monterey at Interstate 10). As students share, compile the lists on a class chart, “Human-Made Features of the Coachella Valley.”

From Lesson 6, share some of the student’s maps, *Geographical Features of Coachella Valley*. Discuss any correlations between the physical features and human-made features. For example, ask if any of the students have taken the Palm Springs tram up the San Jacinto mountains or been hiking in the Indian Canyons.

Activity #2 Geographical and Human-Made Features of the Coachella Valley

Materials needed: For each student, a sheet of 12” x 18” white construction paper; for each pair of students a ruler and a set of colored pencils; document camera (optional)

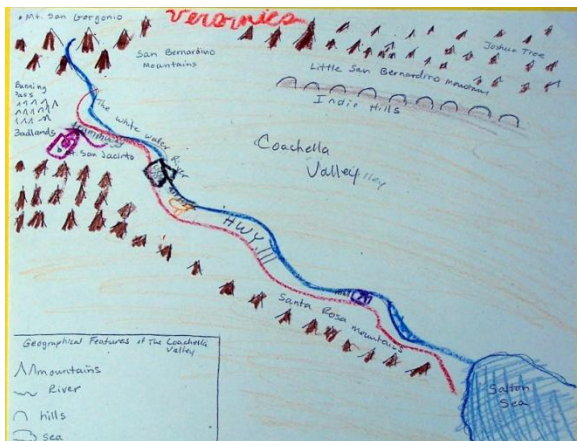
Procedure

Step 1 The first step will be to draw a physical map of the Coachella Valley identical to the one drawn in Lesson 6. This time the process will be much faster and this will give students the opportunity to improve upon their first effort.

Since this is a guided activity, it is helpful to use a document camera as you draw.

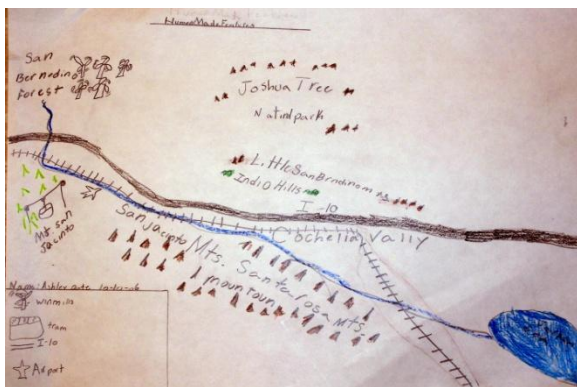
On the lower left-hand corner, use a ruler and draw the symbol key box 3 inches wide and 3 inches tall. It is larger for this map since it will include symbols for both physical and human characteristics. On the top right side of the paper, use capital letters to write a title for the map, *Geographical and Human-Made Features of the Coachella Valley*.

Step 2 Using the previously drawn *Geographical Features of the Coachella Valley* as a guide, model how to draw a geographical features map of the Coachella Valley. Begin in the upper



left hand corner and draw the Whitewater River to the lower right-hand corner. Draw a portion of the Salton Sea. In the symbol key box, create a symbol for a “river” and one for the “sea.” Add upside-down V’s for mountains to the Symbol Key Box. Draw and neatly label Mt. San Gorgonio; the San Bernardino Mountains; the Little San Bernardino Mountains; Mt. San Jacinto; the San Jacinto Mountains; and, the Santa Rosa Mountains. Add hill-shaped semicircles to the Symbol Key Box. Draw and label the Indio Hills.

Label the Coachella Valley alongside the Whitewater River.



Step 3 Using the list of human-made features of the Coachella Valley created in Activity #1, decide which ones students want to add to their map. Recommended human-features include: Interstate 10; the Southern Pacific Railroad (note how I-10 and the railroad diverge in the lower end of the valley); the windmills; the Palm Springs airport, etc. Discuss the symbols that can be used. Don’t select too many or the symbol box will be very crowded!

Using various maps as a guide, have students add human-made features to the map. The map should include:

- a title (such as “Geographical and Human-Made Features of the Coachella Valley”)
- a legend or key to identify the symbols used
- a compass rose showing the cardinal directions
- human-made features drawn and labeled. (Determine an appropriate number of human-made features to be included on the map.)

Assessment

Student work to be assessed from this lesson includes:

- Geographical and Human-Made Features Map of Coachella Valley

Lesson 8: Communityville

Focus Questions: How do people change or modify the natural environment of a community?

Activity #1 Communityville - a Long Time Ago, Growing, and Today

Materials needed: a copy for student, a copy of *Communityville a Long Time Ago* (Handout 8.1), *Communityville Growing* (Handout 8.2) and *Communityville Today* (Handout 8.3). To help students differentiate among the maps, it is recommended that each handout be duplicated on a different color paper. For each pair of students, a magnifying glass; a document camera, if available.

Procedure

Step 1 Display a copy of *Communityville a Long Time Ago* (Handout 8.1). To facilitate a discussion of the map, it is recommended students fold their map in fourths. Label the top two quadrants A1 and B1. Label the bottom two quadrants A2 and B2.

Provide each student time to explore a copy of the map.

Using magnifying glasses (optional), have students examine the map to note the major symbols (trees, rivers, buildings, streets, the lake, railroad, etc.) Develop the following table on the chalkboard:

Continuity and Change	
Before People Came to Live in Communityville	After People Came to Live in Communityville
trees	buildings
river	roads
land	railroads

The items listed in the table that existed before people came to live in Communityville are called natural features. Items listed after people came are called human-made features.

Step 2 Distribute copies of *Communityville Growing* (Handout 8.2). Have students fold the map into fourths and label each quadrant. Analyze how the community has grown as they compare and contrast the changes between this map and the map of Communityville – A Long Time Ago. It is helpful to discuss one quadrant of each map at a time.

Ask what things in the natural environment have stayed the same and what things have changed. Note that the lake dried and now a muddy lowland exists, oil has been discovered, and trees have been removed with the enlargement of the saw mill, the school, and the café. Other buildings have been added and School Street has been extended. A bridge has been

built over the river and a ball park has been added next to the school. The road to the cabin is gone. Ask students why they think these changes occurred.

Step 3 Distribute copies of *Communityville Today* (Handout 8.3). Analyze what natural features still remain and which have changed. Thus far, some trees and the lowland have disappeared. What has taken their place? Three new roads have been built, the hotel has been enlarged, the school has been enlarged and there is a park next to the library. The saw mill has been enlarged. The doctor's house has disappeared and a medical center now exists on that land. Some trees behind the house were removed in order to build a hospital. What new industries have been added?

Ask, "Why have these changes occurred?" "Would you like to live in "Communityville a Long Time Ago," in "Communityville Growing," or "Communityville Today"? Why?

(Note: The Communityville lesson has been adapted from *The Community Publishing Company* by Diane Wilcox Reinke. It is published by the Joint Council on Economic Education.)

Activity #2 Changes in Communityville – a Compare and Contrast Paragraph

Explain to students that writers use certain **signal words** when they write compare and contrast sentences. Display the following:

Signal words when you write compare sentences:

too	alike	both	the same as
resemble	as well as	have in common	

Signal words when you write contrast sentences:

but	different	yet	does not appear
however	instead	otherwise	even though
in contrast			

Using two of the *Communityville* maps, help students write compare and contrast sentences using the signal words. Assist students with the punctuation of the sentences. After writing several compare and contrast sentences, ask students why they think these changes have occurred.

To provide practice, have each student write at least three sentences using compare or contrast words in answer to the prompt "How has Communityville changed over time?"

As an assessment and to provide practice writing a paragraph, assign each student to write a compare and contrast paragraph with a topic sentence and at least three sentences with supporting details that describe how *Communityville* changed over time. (Writing Strategies Standard 1.1) Add *Communityville – a Compare and Contrast Paragraph* to the *Atlas of the Coachella Valley*.

Assessment

It is recommended student work be kept in each student's *Atlas of the Coachella Valley* begun during Lesson 1. Student work to be assessed from this lesson includes:

- Changes in Communityville – A Compare and Contrast Paragraph (Activity #2)

Extended Activities

Geography Extension Activity – *Communityville...in the Future*

Using the format of the Communityville maps (Handout 8.3), students draw a map of *Communityville...in the Future* depicting changes in the physical and human-made features, including new businesses they predict will be added in the years to come.

Changes in the Local Region – a Class Discussion

Discuss with students what they think the land in the Coachella Valley looked like long ago before it was settled. What are some ways that people have changed the physical environment (e.g., built roads, bridges, canals; bulldoze a hillside; construct flood control channels)?

How have natural features contributed to our region's historic development? Ask students, "What are some of the attributes of the natural environment of our region which makes it an attractive location, e.g. in the desert, near the mountains and the Salton Sea." Have students share ways that they and their family enjoy the natural environment.

From what students know about the local geographical features, ask them to hypothesize why the early settlers might have come to our region. Is there anything in the natural environment that might have contributed to the region's development? Identify major areas of the natural environment that are used for jobs or as natural resources, e.g. farming, hot springs, recreation. Are there any products that come from the Coachella Valley?

Changes in the Coachella Valley - Interview a Long-term Resident

Materials needed: a copy for each student of *Changes in the Coachella Valley* (Handout 8.4).

Explain to students that one way we can find out more information about how people have changed or modified the natural environment is to ask people who have lived here in the Coachella Valley for a long time.

Model interview techniques if students are not experienced with interview skills. Let students ask you the questions listed on the next page and record the information on an interview sheet, *Changes in the Coachella Valley* (Handout 8.4). To provide more practice, invite the school principal, the secretary and/or the custodian in for an interview.

Sample questions may include:

- What is your name?
- How many years have you lived in the Coachella Valley?
- What changes have you seen?
- Do you have any old pictures of the Coachella Valley you are willing to share?

Using Handout 8.4, assign students to **interview** one or more residents who have lived in the Coachella Valley for many years. Record the responses. Allow at least one week for students to conduct their interviews.

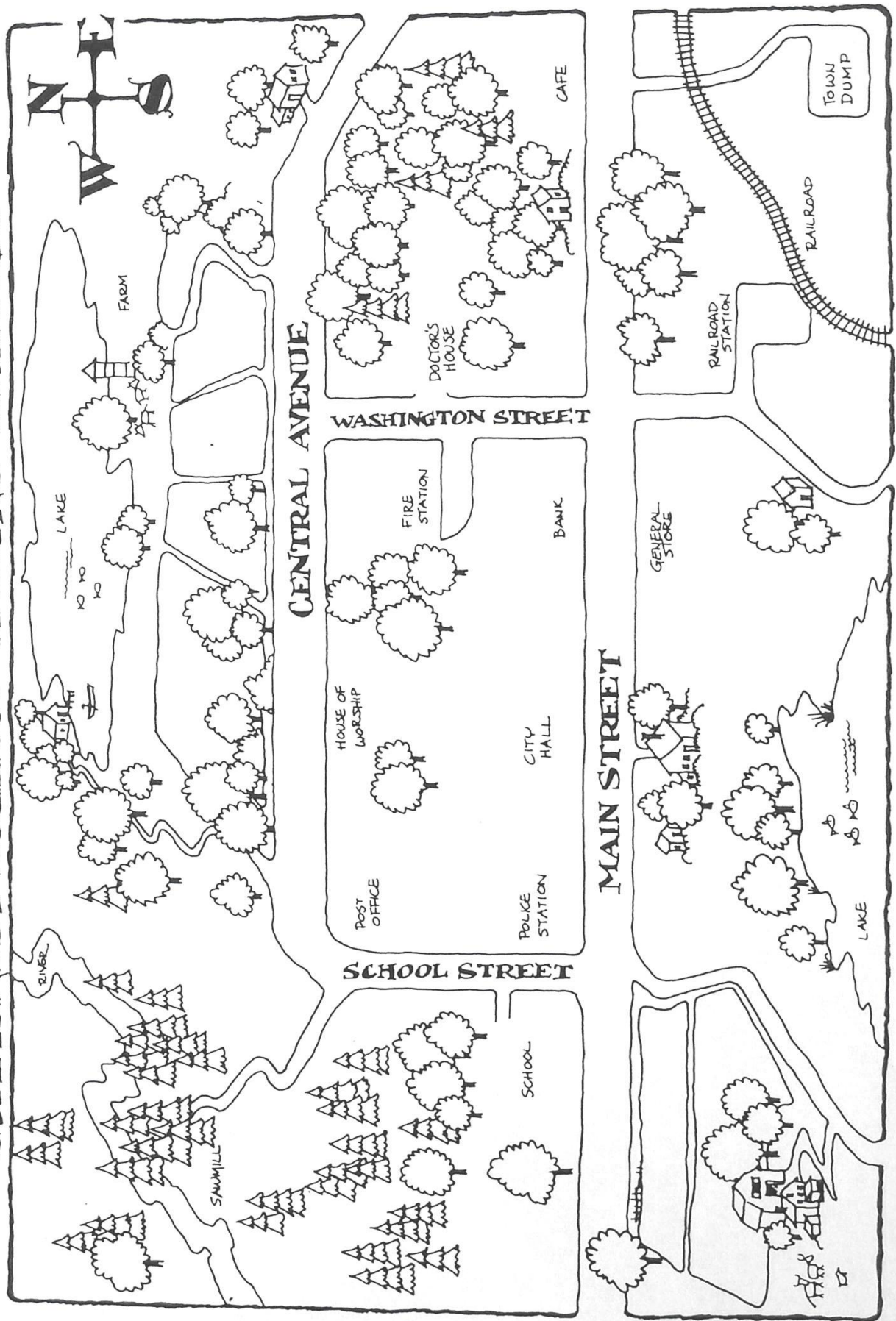
Following the interviews, have students record their results on a class chart, “Changes in the Coachella Valley.” Refer to the sample chart below.

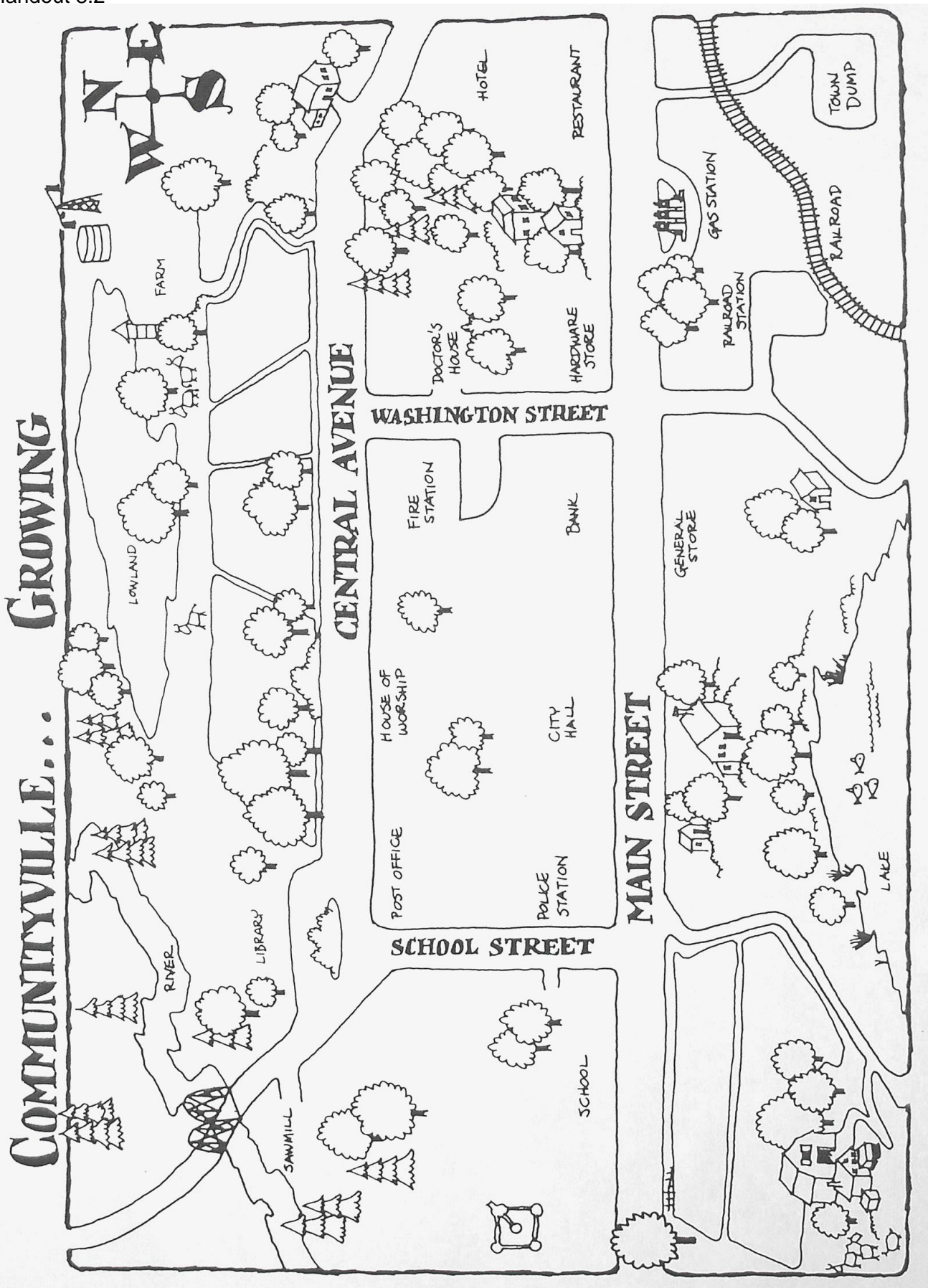
Changes in the Coachella Valley

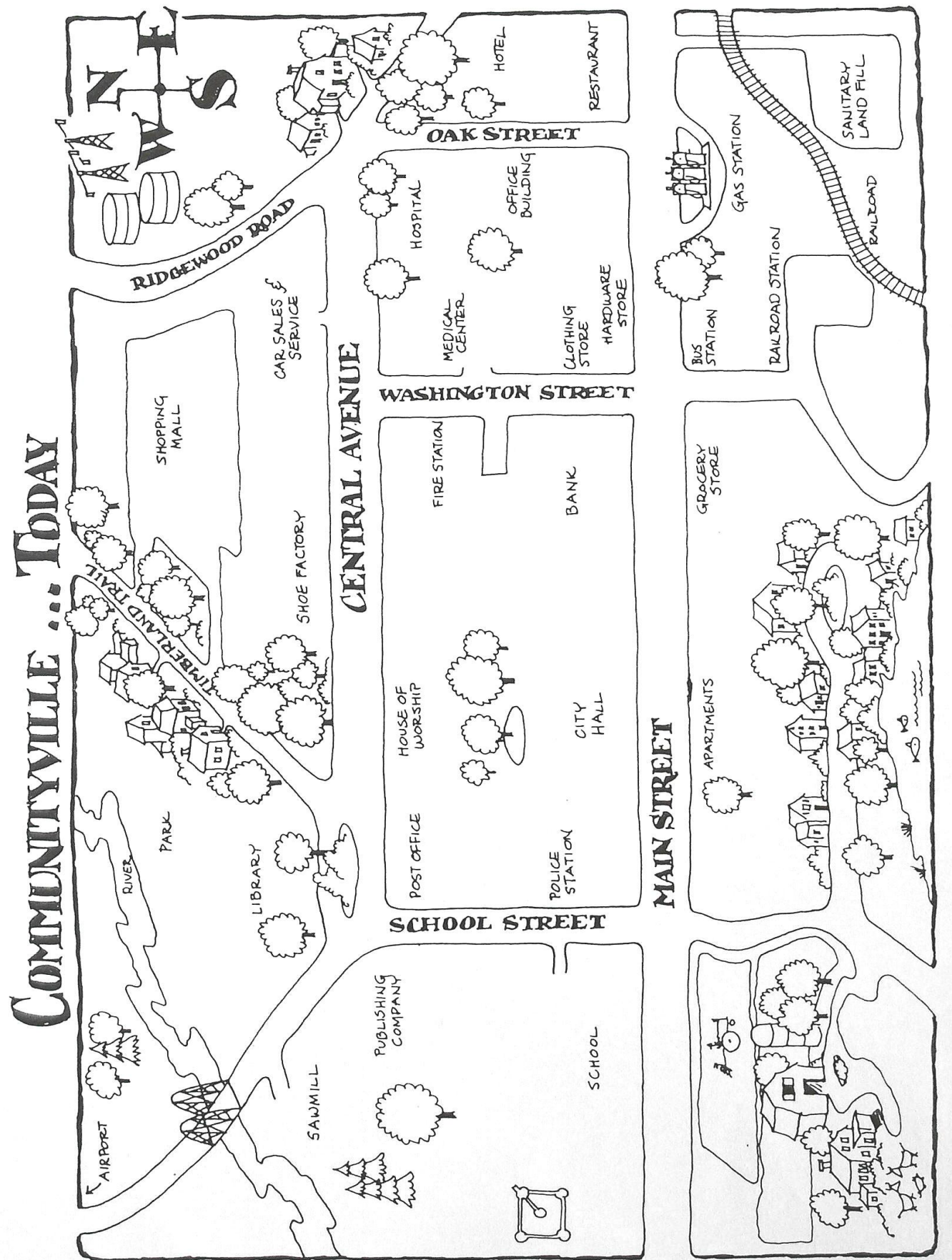
Student’s Name	Name of the person you interviewed	# of years in region	Changes to the natural environment

Display photos obtained from the student interviews and from resource books or historical societies or museums. Whenever possible, include a photograph of the same location today.

COMMUNITYVILLE... A LONG TIME AGO







Changes in the Coachella Valley

Interview a Long-term Resident

Task: Find out information about how people have changed or modified the physical environment in our local area. One way to do this is to interview people who have lived here for a long time. Complete one of the following forms for each person interviewed.

What is your name?
How many years have you lived in the Coachella Valley?
What changes have you seen?
Do you have any old pictures of the Coachella Valley you are willing to share?

What is your name?
How many years have you lived in the Coachella Valley?
What changes have you seen?
Do you have any old pictures of the Coachella Valley you are willing to share?

Student's Name _____ Date: _____

Extended Activities

Relief Map of the Coachella Valley

Using the Geographical Features of Coachella Valley (Handout 6.2), students create a relief map (terrain model) of the region using salt-flour dough. Signs may be placed in the dough before it hardens to label physical features. Have students describe their relief map explaining the unique geographical features. The relief map should include:

- a title (e.g., “Geographical Features of the Coachella Valley”)
- a legend or key to identify the symbols used for physical and human features
- labels for key geographical features (e.g. Mt. San Jacinto, Salton Sea)
- compass rose

Basic clay recipe for the relief map (per student) 2 cups flour, 3/4 cup water, 1 cup salt

1. Students construct a flour and salt relief map of the Coachella Valley. There are three stages to making relief maps: forming, painting, and labeling. You will need to arrange for a drying area for the maps. You should allow about one week for the maps to thoroughly dry.

2. You will need approximately 10 pounds of salt and flour for a class of 30. Send parents/guardians a note informing them of the project and listing the materials each student will need to bring. Have additional flour and salt available in the event that some students do not bring supplies from home. Have a supply of wooden spoons or tongue depressors available for mixing. Working with students, determine an elevation color key to use when painting the maps.

3. Arrange in advance for volunteers to assist as students make their relief maps. It would be helpful to use the cafeteria or some other room where students may work on tables. Cover tables with butcher paper to facilitate clean-up. Review student behavior expectations and have activities available for groups that may finish early.

MATERIALS NEEDED:

For the class

Sample relief maps
Physical map of the Coachella Valley

For each table

Recipe (in a Ziploc bag)
Glue and tape
Measuring cups and spoons
Butcher paper

For each student

2 cups flour
1 cup salt
¾ cup water, approximately
Cardboard (8 ½ X 11” or larger)
Outline map of the Coachella Valley
fitted to the cardboard (Handout 6.2)
Mixing container
Wooden spoon or tongue depressor
Toothpicks
Gummed labels or masking tape

Refer to the next page for Steps for Making a Relief Map.

Steps for Making a Relief Map (Duplicate these directions for each student.)

1. Glue an outline map of the Coachella Valley onto your cardboard base.
2. Using 2 cups flour and 1 cup salt, mix the flour and salt in a bowl with wooden spoons or tongue depressors.
3. Add 3/4 cup water a little at a time until the mixture resembles play dough. You may not need to use all the water. **DO NOT MAKE THE MIXTURE RUNNY!**
4. Put the dough on the map and form the major physical features. Use maps in the room to guide you in molding the major physical features.
5. Press toothpicks into each location that you will label.
6. Carefully place the maps in a drying area.
7. Clean up the work area.
8. After the maps are thoroughly dried, paint them using an elevation color key.
9. When the paint has dried, label the geographical features and major cities.
10. Write on the gummed label or strip of masking tape and fold it in half around the toothpick.

Singing Geography

The Continent Song

(sung to the tune of "Clementine")

North America
South America
Across the Atlantic
To Africa
Europe, Asia
Down to Australia
And finally, Antarctica.

Seven Continents Song

(sung to the tune of "Brother John")

There are seven,
There are seven,
Con-ti-nents, Con-ti-nents
Europe, Asia, Africa,
North and South America,
Australia,
Antarctica.

Continents of the World

(sung to the tune of "This Land is Your Land")

This world is your world,
This world is my world,
From South America
To Asia and Africa
From North America
To Europe and Australia,
This world belongs to you and me.

Earth's Four Oceans

(sung to the tune of "My Bonnie Lies over the Ocean")

Atlantic is one of our oceans;
Pacific and Indian, too.
The Arctic is often forgotten.
I'll try to remember, won't you?
Arctic, Atlantic, Pacific and Indian too
Earth's four oceans;
I'll try to remember won't you?

Landform Poem

Write a poem to describe one of the landforms of Coachella Valley.

Line 1 _____
Name of the landform

Line 2 _____
A phrase that describes the landform

Line 3 _____
Another phrase that describes the landform

Line 4 _____
A place(s) that this landform can be found

Line 5 _____
Name of the landform

Example:

Glacier
Great mass of ice
Slides down a mountain or valley
Located in the Arctic region
Glacier

Name: _____

Date: _____

Landform Storyboard

Type of Landform	Definition	Illustration	Names of Places

Name _____ Date _____