

Unit 5: Economic Resources and Choices

Grade 3 Standard 5: Students demonstrate basic economic reasoning skills and an understanding of the economy of the local region, in terms of:

1. Describe the ways in which local producers have used and are using natural resources, human resources and capital resources to produce goods and services in the past and the present.
2. Understand that some goods are made locally, some elsewhere in the United States, and some abroad.
3. Understand that individual economic choices involve tradeoffs and the evaluation of benefits and costs.
4. Discuss the relationship of students' "work" in school and their personal human capital.

Focus Questions:

Lesson 1	How are natural resources, human resources and capital resources used to produce goods and services?
Lesson 2	What affect does water have on the economy of the Coachella Valley?
Lesson 3	What farm products are produced in the Coachella Valley?
Lesson 4	What are the largest industries in the Coachella Valley economy?
Lesson 5	Where do our goods come from, and how do they get to the Coachella Valley? What goods are made locally, elsewhere in the United States, and abroad?
Lesson 6	What individual economic choices and trade-offs do people make? What are the benefits and costs of the trade-offs?

Assessment: Prompts and Rubrics

Standard	Lesson	Title
3.5	Lessons 3 and 4	Economic Resources of the Coachella Valley – Circle Book
3.3 through 3.5	Extended Activities	Creating a Coachella Valley Almanac

Additional assessment for this unit includes:

Lesson 1: Natural, Human, and Capital Resources

- Work together in a group to answer questions about the changes in natural, human and capital resources and in the production of goods and services in *Communityville...Long Ago*, *Communityville...Growing*, and *Communityville...Today* (Activity #1 - #3).
- Draw and color or cut and paste pictures of "goods" on the left side of a sheet of construction paper. On the right side, identify a "service" by showing someone performing that service. Explain why each picture is placed under the "goods" or the "services" categories. Select a good or service you would purchase and orally, or in writing, explain your choice (Activity # 5).

- Complete a Yellow Pages Scavenger Hunt (Activity #6).
- Complete *Homework and Practice Book* page 98 (Activity #7).

Lesson 2: Water in the Coachella Valley

- Construct a lock book and write information learned about the three sources of San Diego's water.

Lesson 3: Agriculture in the Coachella Valley

- Write at least one contrasting sentence to explain how San Diego's agriculture is different from the rest of California and the country (Activity #1)
- With classmates, brainstorm a list of the top farm products (commodities) grown or raised in the Coachella Valley (Activity # 2).
- On a map of the Coachella Valley, work with group members to locate some of the agriculture areas (Activity #2).
- Keep a **Daily Weather Log** (Handout # 3.2) of the temperature, relative humidity, precipitation, and air quality index to explain some of the factors that affect weather in the Coachella Valley (Activity #3).
- Using the signal words introduced in Activity # 1, write a contrasting sentence to tell about agriculture in the Coachella Valley "Then" and "Now" (Activity #4).

Lesson #4: Coachella Valley's Economy

- To invest in your human capital, develop "My School Plan" using (Activity #6).

Lesson #5: Trading with the World

- Use a map of the Coachella Valley to locate major transportation systems (Activity #1).
- Student pairs identify the manufacturer's location of one article of clothing worn to school and locate the manufacturing locations on a world map (Activity #2).
- Conduct a Survey of Household Goods to identify where they are made and report the names of the brands by category (electronics, transportation, household appliances, clothing) and the names of the countries for each category (Activity #3).
- Make a list of at least 5 countries in the world that you think might export goods to the United States and compare your hypotheses with the data on the chart *U.S. Imports from other Countries Rankings of the Top 14 Importers to the United States, 2006* (Activity #4).
- Make of list of five cities in the United States that you think might have large ports that import or export goods to and from other countries of the world and compare your hypotheses with the date on the chart *Busiest U. S. Ports, 2005 Rankings of the Top 14 Busiest U.S. Ports* (Activity #5).

Lesson 1

Focus Question: How are natural resources, human resources and capital resources used to produce goods and services?

Activity # 1 Identifying Resources Used in Communityville...A Long Time Ago

Note: This activity aims to develop an understanding of natural, human, and capital resources through a mapping exercise. The Communityville lesson has been adapted from *The Community Publishing Company* by Diane Wilcox Reinke, published by the Joint Council on Economic Education. The activity is an extension of the Communityville lesson found in the Grade 3 Unit 1, Lesson 5 of this Local History Project.

Advance Preparation:

- Use a document camera or make a transparency of *Communityville...a Long Time Ago (Handout 1a)*, *Communityville...Growing (Handout 1b)*, and *Communityville...Today (Handout 1c)*.
- For each student or pair of students: Duplicate a copy of **Handouts 1a, 1b and 1c**
- Make vocabulary word cards for: natural resources, human resources, capital resources, goods, services. Definitions are included in the lesson on page 5.
- Materials Needed, if available: magnifying glasses

Directions:

Using a magnifying glass, have students examine the map of ***Communityville...a Long Time Ago (Handout 1a)*** to note the major symbols (trees, rivers, buildings, streets, the lake, railroad, etc...). As the items are discussed, develop the following table on chart paper or on the board:

Continuity and Change

Before People Came to Live in Communityville

trees
river
land

After People Came to Live in Communityville

buildings
roads
railroad

Ask students:

- What symbols would have been found on a map of the Communityville area before people lived there? (e.g., trees, river and land).
- What symbols would be found on a map of our area before people lived here?
- What symbols do you find that are on the map because people came to live in Communityville? (e.g., buildings, roads, and railroad)?
- What symbols would be found on a map of our area now that people live here?

Explain to the students that they have been listing resources. **The items listed on the chart before people came to live in Communityville are called *natural resources*.**

Display vocabulary cards for the following terms:

- **Natural resources** are something from nature that people can use, such as trees, land, water, animals, and minerals, etc...
- **Human resources** are the people needed to grow or make and sell a product or service. The people who came to live in Communityville used their human resources (their labor) along with the natural resources, to build the roads, railroad, and buildings, etc...
- **Capital resources** include money to start a new business, tools, buildings, machinery, and any other goods people make to produce goods and provide services. The items the people in Communityville produced are called capital resources.

Ask students questions such as:

- How did the people of Communityville use the *natural resources* to make the things they wanted? (They used trees to build buildings and bridges, etc... They used water for drinking, cleaning and transportation, etc... They used the land for growing crops and feeding animals, etc...)
- How did the local Cahuilla Indians use natural resources for the things they wanted?
- What capital resources did the people use when building Communityville? (Plows, axes, wagons, saws, and machines, etc...)

Explain that there are places on the map where the people of the community can buy things such as food, education, shelter, medical care, and clothing. These are generally classified as goods or services.

Display the following vocabulary cards:

- **Goods** are products or things that can be bought or sold.
- **Services** are the work that people do for others in exchange for money. For example, a piece of clothing is a “good”, and the work involved in making it is a “service”. The food you buy in a restaurant is a “good”, but you have also bought the “services” of the following people: of the cook; the person who served the food; the cashier who took your payment; and, the kitchen helper who cleaned up after you left.

Return to the Communityville map. Locate, circle, and label some places on the map where people in Communityville can buy goods and/or services. Write ‘G’ for the word ‘good’ and write ‘S’ in place of the word for ‘service’.” Ask “How can we indicate something that fits both categories?” (write both letters)

Guide to Goods and Services for the Map of “Communityville...a Long Time Ago”

Sawmill – good (wood)
Post Office – service (delivers mail)
House of Worship –service (e.g., marriage, funerals and consultation)
Farm – good (food)
School – service (education)
Police Station – service (protection)
City Hall – service (government)
Fire Station – service (protection)
Bank – service (savings accounts and loans)

General Store – goods (e.g., food, soap, and newspapers)
Doctor’s House – service (medical care)
Café – good (food) and service (cooking and serving food)
Railroad Station – service (transportation)
Town Dump – service (a holding place for garbage)

Explain to students that resources are used to produce goods and services that people want. Consequently, when people’s wants change or when there is a change in the resources available, the community changes or adapts to meet the new wants.

Activity # 2 Communityville...Growing

Project as a transparency and distribute copies of **Communityville...Growing (Handout 2b)**. Have students 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.” Note: It is helpful to discuss one quadrant of each map at a time. Have students fold each map vertically and then horizontally. Number each quadrant on the map beginning in the upper left-hand quadrant.

On a sheet of chart paper or on the board, copy the table shown below and list changes as the class discovers them. Ask what natural resources and capital resources have changed.

Natural Resources That Have Changed	Capital Resources That are New or Have Changed
Trees removed by the enlargement of the sawmill, school, café, fire station	Bridge built over river
Lake dried and lowland now exists	Ball park added next to school
Oil discovered	Buildings added such as library, hardware store, hotel, and gas station
	Small road to cabin removed
	Oil well constructed
	Buildings enlarged such as the sawmill (trees removed) café (now a restaurant), and fire station (trees removed)

Ask students: **Why do you think these changes occurred?** Growth is due to:

- Growth in the number of people as well as their changing economic wants.
- As communities grow, they offer more goods and services to people. This helps the community to continue to grow
- People will move to communities that have more goods and services available.

Ask students to locate some new places on the “Communityville Growing” map that provide goods and/or services. Circle, and label the places on the map that have been added or expanded where people in Communityville can buy goods and/or services. Write “G” (for “good”), “S” (for “service”), or both letters, depending upon what is available for sale.

Guide to Goods and Services for the Map of “Communityville...Growing”

Added	Expanded
Library (service)	Sawmill- trees removed (good)
Oil well (good)	School ball park (service)
Hotel (service)	Fire station - trees removed (service)
Hardware store (good)	Café is now a restaurant (good/service)
Gas station (good/service)	

Activity # 3 Communityville...Today

Project a transparency and distribute copies of **Communityville...Today (Handout 2c)**. Fold the map into fourths and number each quadrant.

Note that three new roads have been built (Timberland Trail, Ridgewood Road, Oak Street). Analyze what physical features still remain and which have changed. (The farm, some trees and the lowland have disappeared.) What has taken their place?

Ask students to locate some new places on the “Communityville ...Today” map that provide goods and/or services. Circle and label the places on the map that have been added or expanded where people in Communityville can buy goods and/or services. Write “G” (for “good”), “S” (for “service”), or both letters, depending upon what is available for sale.

Added	Added
Airport (service)	Apartments (replace houses on Main Street)
There is a park next to the library. (service)	Hospital (trees removed)
Publishing company	The doctor’s house has disappeared and a medical center now exists on that land.
Shoe factory	Clothing Store
Shopping mall	Office Building
Car sales and service	Bus station
General store is now a grocery store	Town Dump is now a Sanitary Land Fill

What industries have expanded? (The general store has been enlarged to a grocery store. The town dump has enlarged to the Sanitary Land Fill.

Ask students: “Why have these changes occurred?”

On the back of the map, ask students to complete the sentence, “Communityville has changed because....” Guide students in their thinking by having them consider the changes in the availability of community resources and in the availability of goods and services.

Also, on the back of the map, have students answer the following question:
Would you like to live in “Communityville a Long Time Ago,” in “Communityville Growing,” or “Communityville Today”? Why?

Activity # 4 Defining “Goods” and “Services”

In this activity, students will make a transition from looking at Communityville to looking at their community.

Write “Goods” and “Services” on a piece of chart paper or on the board. As you complete the following activity, record on the chart or board some examples of “goods” and “services” in the community.

Review the definition of **goods** as *products or things that can be bought or sold*. In addition, *goods* are things you can hold or touch, such as food, shoes, cars, and toys. Some people make and sell *goods or products*. Discuss with students the types of stores in the community that provide *goods*.

For example:

- Where do people buy their food? (e.g., grocery store, farmers' market) Explain about the many different types of grocery stores in a free market economy, including big ones, small ones, specialized and discount ones, etc.... Individuals have many
- Where would you go if you wanted to buy shoes? List the names of specific shoe stores and whether they are located in a large shopping mall or strip mall or along a business street. (It may be useful to show the local community's yellow pages. Refer to the optional Yellow Page activity at the end of this lesson.)

Continue to brainstorm more types of "goods" and record each on the chart or board. Point out that in a **free market economy**, the word "free" does not mean the items are without cost. A *free market economy* means people have many options of where to buy or sell goods and where to select and provide services.

Review the definition of **services** as *the work that people do for others in exchange for money*. Some people offer services which, when performed, help others. Familiar services are some of the following: medical care; hair styling; baby-sitting; teaching (providing education); teaching how to skate; removing garbage; and, delivering the mail or newspaper to a home or business.

In a classroom discussion, first identify a variety of "needs" and then elicit what businesses would provide matching services. Record each "service" along with its corresponding business title on the *Goods and Services* chart.

For example:

- Need: you are sick or hurt and need assistance. Where do you go?" (Doctor's office, medical center, or the hospital) Emphasize that Americans are very fortunate to have so many choices available.
- Need: your hair is too long and needs cutting. Where do you go?" (Barbershop, hair salon, to your parent or relative who can cut your hair)
- Need: to learn how to read better. Where does a 7 year old go? (To elementary school) Where does a 15-year-old go? (To high school)
- Need: to learn to use a computer. Where does a 7-year-old go? Where does an adult go?

Continue to brainstorm the places in the local community that provide appropriate "services". Note: Review that a "free market economy" includes many options for providing services. And, it may be appropriate to use the yellow pages again.

Activity #5 Sorting "Goods" and "Services"

Materials Needed: 12" X 18" pieces of construction paper; crayons or markers or glue; scissors; magazines; and, the Sunday newspapers' ad sections for cutting out pictures.

To each pair of students, distribute a sheet of 9" X 12" piece of construction paper that is divided in half vertically. Students write "Goods" on the left side and "Services" on the right side. Have students draw and color or cut out and paste pictures of "goods" on the left side of the paper. On the right side, identify "services" by showing different people performing that service. Ask students to explain why they placed each picture under the "goods" or the "services" categories.

Using their chart, have each student make an individual choice of a good or service that he/she would purchase and orally, or in writing, explain his/her choice.

Activity # 6 Yellow Pages Scavenger Hunt

Have students bring in copies of the local yellow pages Send students on a **Yellow Pages Scavenger Hunt (Handout 2)** to locate local businesses in the following categories:

Auto dealership	Carpet cleaning	Motel	Restaurant
Auto repair	Clothing store	Newspaper	Shoe store
Bank	Florist	Pet store	Sporting Goods
Beauty salon	Hardware store	Photo processing	Theater

Assessment:

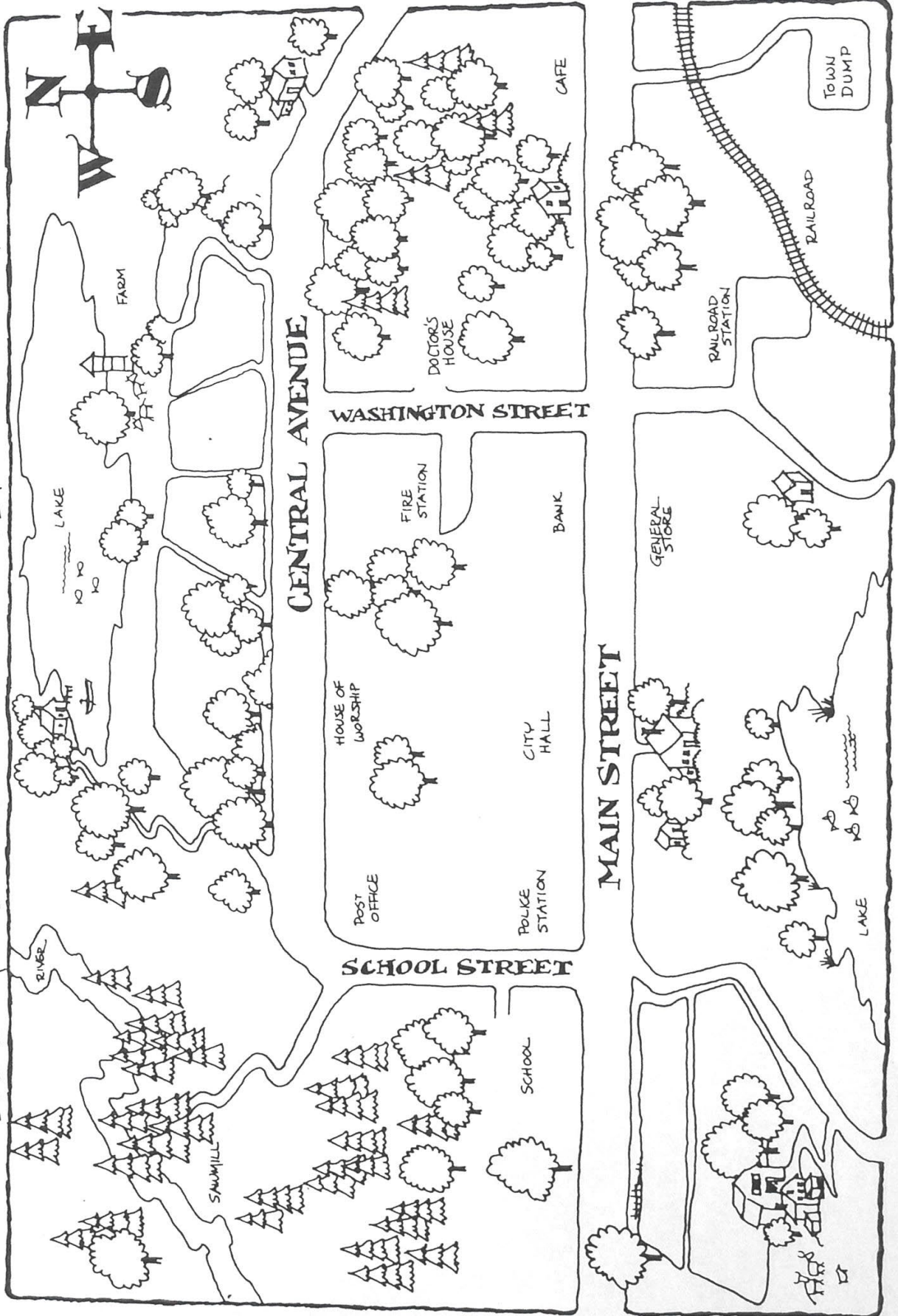
- Work together in a group to answer questions about the changes in natural, human and capital resources and in the production of goods and services in *Communityville...Long Ago*, *Communityville...Growing*, and *Communityville...Today*.
- Draw and color or cut and paste pictures of "goods" on the left side of a sheet of construction paper. On the right side, identify a "service" by showing someone performing that service. Explain why each picture is placed under the "goods" or the "services" categories. Select a good or service you would purchase and orally, or in writing, explain your choice.
- Complete a Yellow Pages Scavenger Hunt.

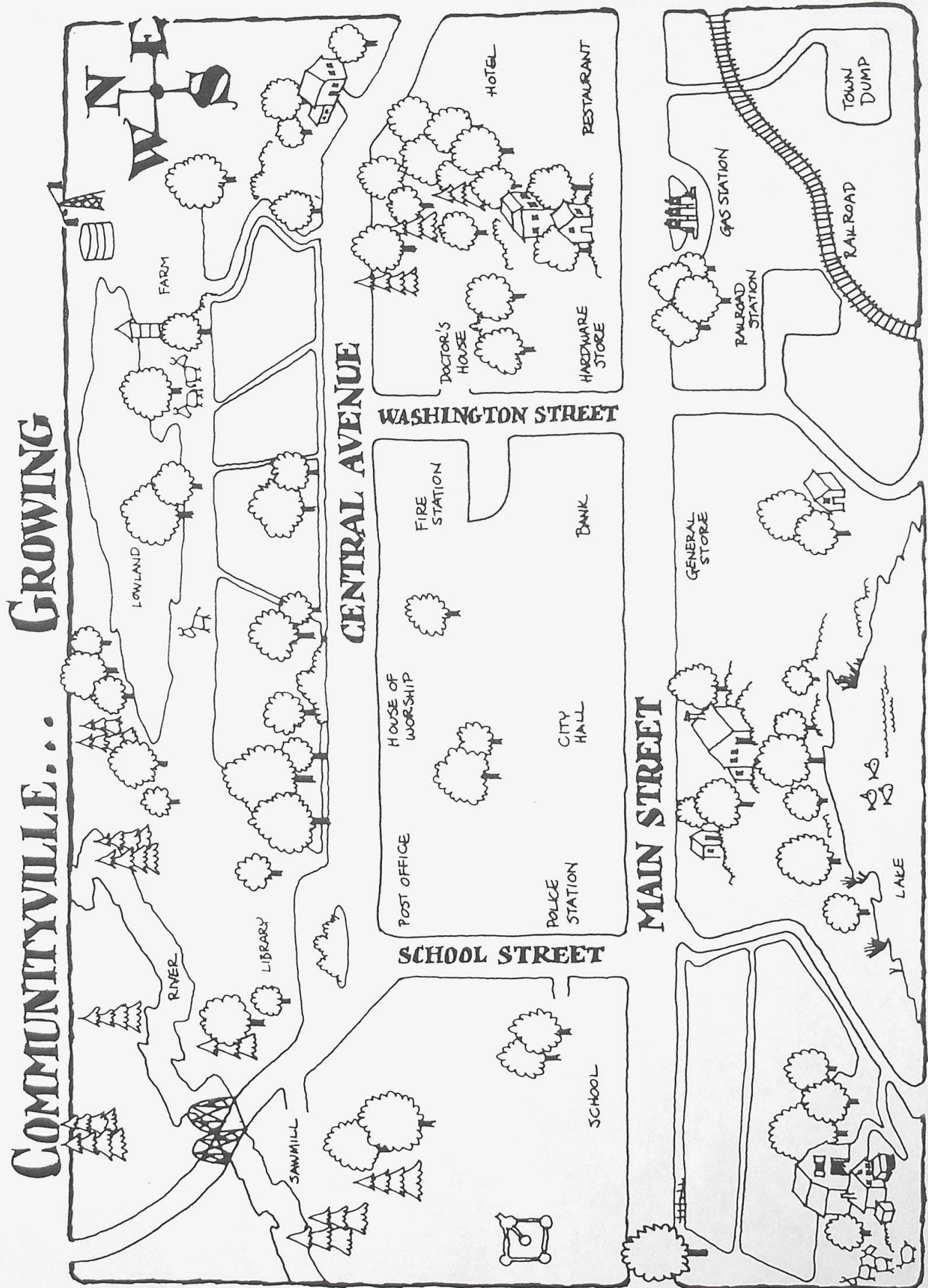
(Optional) Consumer Matrix

Using the scavenger hunt information, have students list 5 "goods" or "services" they might use and then locate a local business that can provide the "goods" or "services." Have students record these goods and services on a matrix like the one listed below.

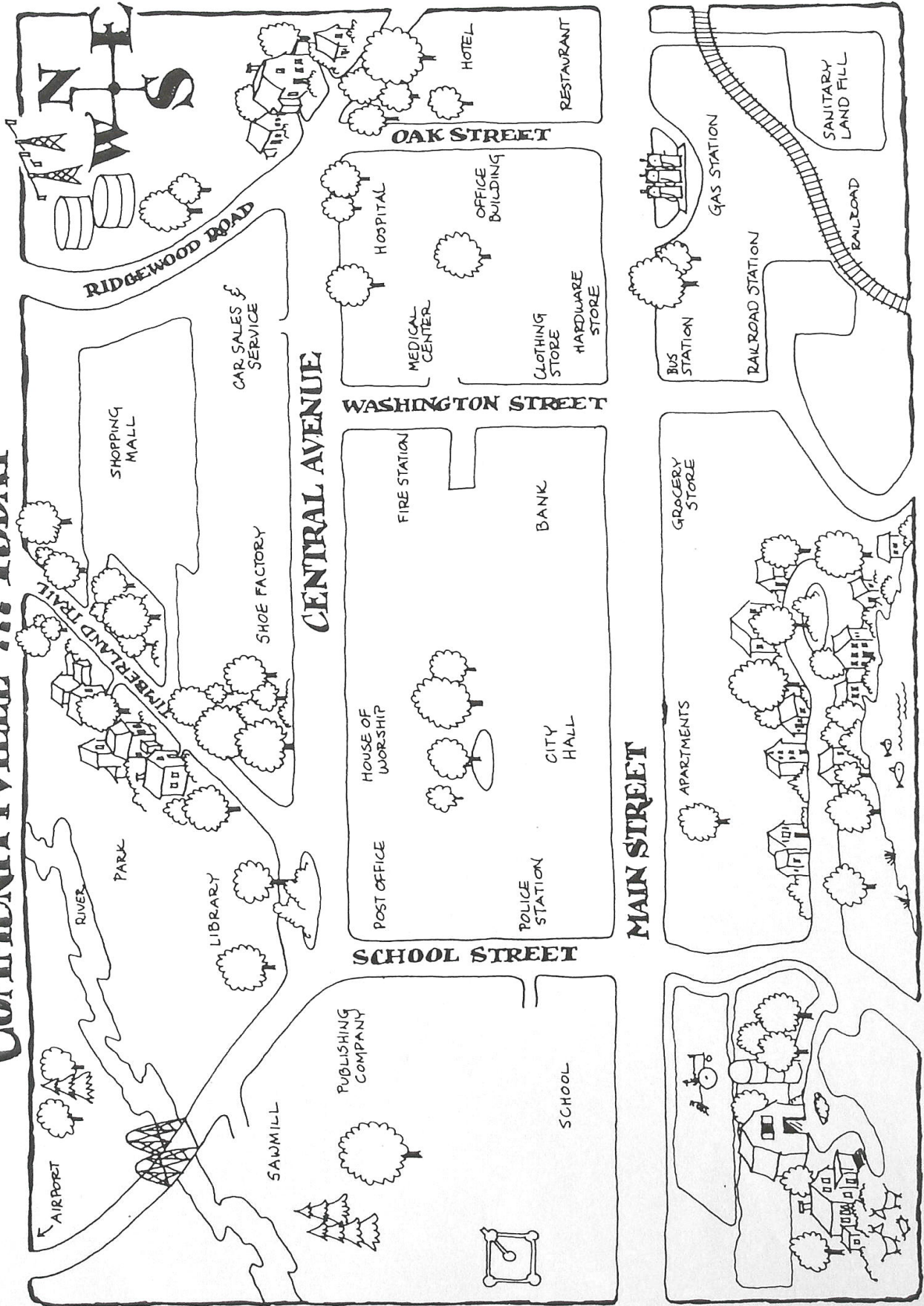
ITEM	Good or Service?	Business Name/Address
Eyeglasses	Good	Frame-n-Lens
Doctor	Service	Eisenhower Hospital

COMMUNITYVILLE... A LONG TIME AGO





COMMUNITYVILLE ... Today



Yellow Pages Scavenger Hunt

Use the yellow pages to find the name and telephone number of one business for each of the following categories. The business must be located in your city.

Restaurant _____

Theatre _____

Beauty Salon _____

Motel _____

Pet Store _____

Shoe Store _____

Auto Repair _____

Clothing Store _____

Florist _____

Newspaper _____

Carpet Cleaning _____

One Hour Photo _____

Auto Dealership _____

Name _____ Date _____

Lesson 2

Focus Question: How does a local producer use natural resources, human resources and capital resources in the production of agricultural dates?

Note: The economy of the Coachella Valley is based on tourism and agriculture. Farm products such as dates, citrus and truck crops are grown and shipped all year long. The east end of the valley from about Indio and Coachella to the Salton Sea is known as the “green end” of the valley. Here, approximately 80,000 acres are under cultivation growing farm products.

The following activity aims to develop an understanding of **natural resources, human resources, and capital resources** in the production of dates, a key industry in the area starting in the past and continuing to the present. The Coachella Valley produces about 90% of the dates grown in the United States.

The date palm must have full sun as it cannot live in the shade. The date will grow in all warm climates where the temperature rarely falls to 20°F. However, when the palm is dormant, it can stand temperatures as low as 20°F. But, when it flowers or produces fruit, the palm requires mean (average) temperature above 64°F.

For commercial fruit production, the palms require a long, hot growing season with daily maximum temperatures of 90°F and virtually no rain—less than 1/2 in in the ripening season. While the date palms can tolerate long periods of drought, and virtually no rain for fruit ripening, they need a large amount of ground water for producing lots of fruit. This is best supplied by periodic flooding and by subsurface water rather than by rain.

Activity # 1 Stages of Production in the Date Industry

Materials for the Teacher:

Digital display of **Natural, Human, and Capital Resources of Date Production (Handout #2.3)**

Materials for Each Student:

3 sheets of 8 1/2” by 11” paper, glue sticks, scissors, rulers

Stages of Date Production (Handout #2.2)

Natural, Human, and Capital Resources of Date Production (Handout #2.3)

Procedure:

Refer to **All About Dates (Handout # 2.1)**.

- Share with students the background information about **dates**.
- Introduce the history of **dates** in the local region.
- Emphasize the **date** timeline.
- Introduce the information about *Oasis Date Gardens*, a local date grower.

Overview

During the following activity, each student will:

- Construct a lock book (directions follow).
- Number the **Stages of Date Production (Handout #2.2)**. Cut out the Stages of Date Production. Paste them in order in the lock book, beginning with the back side of the cover. Each subsequent page includes one stage on the front and another on the back side.
- Paste them in order in the lock book, beginning with the back side of the cover. Each subsequent page includes one stage on the front and another on the back side.
- Use the information in the lock book to complete the chart, **Natural, Human, and Capital Resources of Date Production (Handout #2.3)**.

Directions to Make a Lock Book

1. Distribute to each student 3 sheets of 8 ½” by 11” paper, glue, and scissors.
2. Fold each sheet of paper in half vertically (hamburger fold).
3. Open each sheet of paper. Measure along the crease and make two small pencil marks 1 ½ inches and 7 inches from the top.
4. On piece of paper #1, cut along the crease from the 1 ½ inch mark to the 7 inch mark. (*It may be helpful to fold the paper in half lengthwise, but be careful not to crease it.*)
5. On the second and third pieces of paper, cut along the crease from the top of the page to the 1 ½ inch mark. Then cut along the crease from the bottom of the page to the 7 inch mark.
6. Take the second piece of paper that has been cut at the top and the bottom of the crease, fold one side of the paper, and feed the paper through the hole in paper #1. (*Be careful not to crease the page.*) **Unfold the page so it locks into place.**
7. Fold the third sheet of paper that was cut at the top and the bottom of the crease, and feed it through the same hole in paper #1.
8. Fold the pages into a book shape.
9. Hold the book horizontally. Write “Stages of Date Production” on the cover of the lock book. The student’s name, colors, designs, and illustrations may be added later.

Stages of Date Production

1. On a copy of **Stages of Date Production (Handout #2.2)**, number each stage from 1 to 9.
2. Cut apart each section of the **Stages of Date Production (Handout #2.2)**.
3. Hold the book horizontally and write *Stages of Date Production* on the cover.
4. Beginning on the **back side of the title page of each lock book**, glue, in order of production, each stage of date production. Beginning on the back side of the title page, use the front and back side of each page of the lock book.

Handout #3
Natural, Human, and Capital Resources of Date Production

STAGES	Natural Resources	Human Resources	Capital Resources
1 Planting the Trees	Date offshoots, water, sun, soil	date growers, planters, workers	money to buy the land, the date offshoots, the water, and pay the date workers
2 Defolliering the Trees	date palm trees, water, sick	date growers, workers	Curved knife, ladder, \$ to pay workers
3 Pollinating the Trees	date palm trees, water, flowers	workers	Knife for cutting, ladder, clip, stroller, \$ to pay workers
4 Thinning the Fruit	date palm trees, small dates, water	laborers	under clothes, knife?
5 Ringing and Bagging the Fruit Bunches	date tree, bagging, sun, date	workers	date bunch, rings
6 Harvesting the Dates	dates	workers	moving belt, ladder, \$ to pay packing house workers
7 Sorting the Dates	dates	packing house workers, skilled	conveyor, \$ to pay packing house workers
8 Cleaning Process	dates, water	packing house workers	water, long, ferril cloth, boxes
9 Boxing, Storing and Shipping Process	dates	packing house workers, shippers	date conveyor, freezers, sheta, boxes, boxes, conveyor
Marketing the Dates	dates	shippers, people	belt, \$ to buy

- Label the last page, “**Buying and Eating Process**”. Have students draw a picture of buying dates at the store or of eating and enjoying a date. Some students may choose to combine both situations on a single page

Natural, Human, and Capital Resources of Date Production

- Project a transparency and distribute to each student a copy of **Natural, Human, and Capital Resources of Date Production (Handout #2.3)**.
- Using the information in the **Stages of Production lock book**, discuss the natural resources, human resources, and capital resources needed for each stage of date production.
- Complete the categories that have been left blank on the chart, **Natural, Human, and Capital Resources of Date Production (Handout #2.3)**.

Assessment:

- Construct a lock book with the stages of date production listed in the proper sequence.
- Complete the Natural, Human and Capital Resources chart.
- (Optional) Work with classmates to begin a small business, *Community Lemonade*. (See the optional activity listed below.)

(Optional) Activity - Community Lemonade

Help students develop a basic economic understanding of natural, capital and human resources through the creation of the small business, *Community Lemonade*.

Display a chart with the following captions: Natural Resources, Human Resources and Capital Resources. Students generate a list of resources necessary to run a lemonade stand. (See the next page for a sample.)

Item Needed	Natural Resources	Human Resources	Capital Resources
Lemons	Plant	People to squeeze the lemons	Teacher loan to purchase items needed
Water	Water	People to pour the water into the lemon juice	Lemons from our backyard
Sugar	Plant	People to mix	Teacher loan
Cups	Tree	Lumberjack Truck driver Paper processing plant	Teacher loan

After making the lemonade, have students sell it at recess or lunch. Pay off the teacher loan and use the profits (if any) for a class treat.

All About Dates

Background Information: Dates are the fruit of the date palm. They are dark reddish brown, oval, and about 1 1/2 inches long. Date skin is wrinkled and coated with a sticky, waxy film. The date palm must have full sun as it cannot live in the shade. It will grow in all warm climates where the temperature rarely falls to 20°F. However, when the palm is dormant, it can stand temperatures as low as 20°F. But, when it flowers or produces fruit, the palm requires the mean (average) temperature above 64°F. More specifically, for commercial fruit production, the palms require a long, hot growing season with daily maximum temperatures of 90°F (32.22°C) and virtually no rain—less than 1/2 in (1.25 cm) in the ripening season.

Even though the date palm is a desert plant, it requires a lot of water. This is best supplied by periodic flooding and by subsurface water rather than by rain. Date gardens are generally flooded every week or 10 days at a level of ten feet. It is said that the date palm tree must have “its feet in the water and its head in the fires of heaven”. However, rain is their worst enemy. Waterproof covers are often put on each bunch of dates during the last week of August when the fruit starts to color.

The growing season for dates is so long, most date workers stay in the local area year-round.

History of Date Farming in the Coachella Valley

Scientists brought date palm trees to Indio from Algeria in 1903. In 1904, the United States Department of Agriculture closed an original station founded in Mecca and then established a Date and Citrus Experiment Station in Indio. From all over the world, the Indio USDA Station brought scientists to study the information collected at their station. In 1912, Paul and Wilson Popenoe purchased a total of 16,000 offshoots of selected cultivars in Algeria, eastern Arabia and Iraq. They transported the cultivars to California for distribution by their father, F.O. Popenoe, a leader who encouraged date culture in California. It became a profitable crop, especially in the Coachella Valley. By 1937, there were 14,500 acres being farmed in the Coachella Valley. Today in California and Arizona, there are about 250,000 (a quarter of a million) fruit bearing trees.

Indio calls itself “The Date Capital of the United States”. Beginning in the 1940s, Indio hosts the National Date Festival regularly. Among the many festivals Indio hosts in recent years, one of the most successful is the joint Riverside County Fair and the Date Festival which attracts thousands of visitors yearly.

'Deglet Noor'—a leading type of date in Algeria and Tunisia, now constitutes 75% of the California crop. It is semi-dry, not very sweet; keeps well; and is hydrated before shipping. The Medjool date is often considered to be the “Royal Superior” of dates.

Date Timeline

1890	<ul style="list-style-type: none">• The first planting of date palms by the U.S. Department of Agriculture takes place.
1903	<ul style="list-style-type: none">• Mr. Bernard Johnson plants the first private commercial date palms near Mecca.
1913	<ul style="list-style-type: none">• Caleb Cook, for whom Cook Street is named, moves to Indian Wells and establishes a sizeable “Deglet Noor” date garden.
1927	<ul style="list-style-type: none">• The “Medjool” date is introduced to the Coachella Valley.

Oasis Date Garden

Oasis Date Gardens is a 175-acre working date ranch in Thermal, California, an area considered “*the heart*” of the Coachella Valley. Oasis Date Gardens is home of the superb Medjool Date and many other interesting and delicious date varieties. Date growing today in the warm, fertile Coachella Valley is very different from the primitive Old World industry from which it evolved. Oasis, along with it’s sister company Winterhaven Ranch produce about 1,300,000 pounds (lbs.) of Medjool dates and about 100,000 pounds (lbs.) of other varieties.

Oasis Date Gardens sells wholesale throughout the U.S. as well as to world-wide markets including Canada, Europe, England, Australia and multiple countries in the Far East. Also, Oasis has a strong mail order catalog following for products ranging from premium gift packages to bulk dates.

The chart, **Stages of Date Production (Handout #2.2)**, is based on the information and photos available on the Oasis Garden Website: <http://oasisdategardens.com>

Good photos of growing dates can be found at <http://www.inn-california.com/deserts/RiversideC/indio.html>

Stages of Date Production



Planting the Trees:

Date Palm Trees are planted from offshoots from another tree, rather than from seeds which are non-varietals. Each tree grows about 20 offshoots within a lifetime. The male tree bears no fruit. An acre of land can support one male tree and about 48 to 50 female trees.

The average tree can reach 70' to 80' feet high and begins bearing fruit when it is about 7-years old. The tree may go on producing fruit for well over 100 years.



Dethorning the Trees:

Thorns that grow along the base of each leaf frond extend about 3 to 4 inches and can be very hazardous to those working and caring for the palms. Consequently, in January the thorns are dethorned (removed) with a special curved knife.

The date workers use ladders to go up and down the trees. During the different stages of production, workers make 20 to 50 trips up and down into every tree each year.



Pollinating the Trees:

Oasis Date Gardens, has borrowed the "harem" idea from the Old World in that one male palm presides over an acre or about 50 female palms. The trees are hand pollinated.

- The pollination process starts by first cutting the male pollen flowers from the male palm
- The pollen powder is then collected and dried for the pollination process.
- Using a shaker, each female bloom must

be dusted with the pollen from a male palm.



Thinning the Fruit:

In April, when the dates are about the size of small olives, they are thinned by hand. Up to 75% of the fruit is thrown away. This allows more room for the remaining dates to grow and prevents the stem breaking from the weight of large fruit bunches as the fruit matures.



Ringing and Bagging the Fruit Bunches:



In June and July, rings are placed into each date bunch to spread the bunch apart and further enhance the prospect of providing aeration and room for the dates to grow. Additionally, a cloth bag, much like a pillowcase, is placed over each date bunch to protect the dates from insects, birds, and from any possible rain.



Harvesting the Dates:

It isn't over yet, because now it's time to pick the fruit from the tree. Harvesting begins in September and lasts until December. Dates are hand-picked as they ripen. With Medjool dates, all the dates in one cluster do not ripen at the same time. This requires about three picks through the grove to allow all the dates to ripen on the tree.

This method produces the sweetest and most natural taste possible - allowing the sugars to reach their maximum strength to produce a rich and flavorful treat. After the dates are picked, the empty fruit stems are cut off.



Sorting (Grading) the Dates:

The dates are sent over a moving-belt conveyer past grading stations where skilled packing house graders sort them according to condition, size and quality. It is essential that soft variety dates, of which the Medjool variety is one, be handled as delicately as possible in order to avoid skin damage and bruising.

Dates are graded into categories such as Jumbo, Select, Large, Fancy, and Extra Fancy.

Cleaning Process:

Fruit ready to be packed goes through a cleaning process on an inclined "shaker table", covered with terry-cloth towels. These clean the dates as they shake and slide down the table on a moving-belt conveyer.

To produce high quality dates, particularly the Medjool variety, extensive care during farming and meticulous handling during the grading, cleaning and packing operations is required.



Boxing, Storing and Shipping Process:

The shaker table sends the dates down to a conveyor belt where they are boxed by appropriate grade. The dates are then placed in freezer storage at 0 degrees F. until they are shipped to market and ultimately arrive at your dinner table. Most Medjool dates are packaged in two-kilo cartons that double as display units in stores.

Natural, Human, and Capital Resources of Date Production

STAGES	Natural Resources	Human Resources	Capital Resources
Planting the Trees	Date offshoots water	date growers	money to buy the land, the date offshoots, the water, and pay the date workers
Dethorning the Trees	date palm trees water	date growers	Curved knife, ladder, \$ to pay workers
Pollinating the Trees	date palm trees water		Knife for cutting, ladder, bucket, drier, shaker, \$ to pay workers
Thinning the Fruit	date palm trees, small dates, water		
Ringing and Bagging the Fruit Bunches			
Harvesting the Dates			
Sorting the Dates	dates	packing house workers	moving-belt conveyer, \$ to pay packing house workers
Cleaning Process	dates water	packing house workers	
Boxing, Storing and Shipping Process			
Eating the Date			

Lesson 3

Focus Question: What affect has water had on the economy of the local region?

Activity # 1 “Water Vision” – Why is Water an Important Natural Resource?

Explain to students that water is a vital natural resource. In extreme amounts, it can flood and destroy. Without it, nothing survives. Thus, its availability in large enough supply for agricultural purposes plays an important part in land usage. Because of its availability in the Coachella Valley, water has played and continues to play a key role in the growth and development of that economy. Today, the Coachella Valley produces more than 50 commercial crops with a value of a year’s production in excess of \$550 million.

Ask students:

- **Why is water an important natural resource?**
- **How does the water get here?**
- **What are the main sources of water?** (underground aquifer and wells, water imported from a distance along canals, recharged water from the California State Water Project, recycled water)
- **Where does the water bill come from?** Water is generally provided by a city-owned water department, a water district, a private company, or a mutual company. Generally, water in the Coachella Valley is supplied by a water district such as the Coachella Valley Water District, the Mission Springs Water District, or, for the Palm Springs area, the Desert Water Agency. Suggest students ask their parents to show them the water bill.

Explain that these questions and others will be answered in ***Water Vision***, a DVD produced by the Coachella Valley Water District.

Materials Needed:

- ***Water Vision***, a DVD (Note: The DVD is available free of charge from the Coachella Valley Water District. If the DVD is not available, proceed to Activity #3.)
- A copy of the **Circle Book Writing Template Handout # 1** for each student (Note using a light-colored paper will make the final project more vibrant.)
- Scissors and glue

Procedure:

Divide students into “home-groups” with 4 in each group. Have students in each home-group number off from 1 to 4. Provide students with paper for note taking while viewing ***Water Vision***. **Begin the DVD and STOP at “The Present.”** (The second part will be viewed during the next activity.)

As students view the first part of the DVD, they should take notes, according to their number, on the following topics:

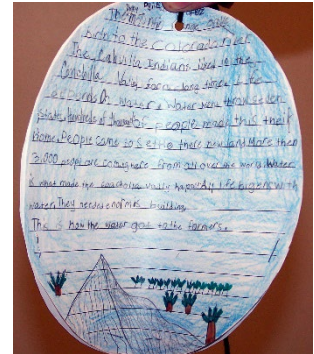
1. geographic features
2. reasons why people come here
3. agriculture or farming
4. water

After viewing the first part of the DVD, have students with the same numbers meet together in “job-alike” groups. Students share their notes with their group members and add any new notes. If desired, view the DVD a second time.

As a guide for the teacher, the following notes are a sample of what might be included in each group's notes:

<p>Geographic features: valley is 70 miles long and 18 miles wide Underground basin to store water (aquifer) from Whitewater to Salton Sea</p>	<p>Reasons Why People Come Here: Vacation, clean air, sun, swim, tennis, golf Live, work and play Climate attracts tourists</p>
<p>Agriculture or farming: One of the major farm producing regions in the world Drip irrigation</p>	<p>Water: underground basins, artesian springs, wells, irrigation water, canals, reservoir, recycled water</p>

Using the **Circle Book Writing Template (Handout #3.1)**, each student writes and illustrates information about his/her assigned topic.



Students return to the original “home-groups” and share information about their assigned topics. Assemble the circle books following the steps below:

- Following the dotted lines, cut out each circle. Fold each circle in half.
- Glue the right back side of #1’s circle to the left back side of #2’s circle.
- Glue the right back side of #2’s circle to the left back side of #3’s circle.
- Glue the right back side of #3’s circle to the left back side of #4’s circle.
- Glue the remaining half of #4’s circle to the last side of #1’s circle.

The completed circle books can be arranged into a mobile and hung from the ceiling of the classroom (attach mobiles to the bottom of wire hangers). Tie varying lengths of thread from the hanger. Tie a paper clip to the end of each piece of thread and hang the circle book from the paper clip. Add a sign that reads *Economy of the Coachella Valley*.

Activity # 2 How Does the Water Get Here?

Display a map that includes the western part of the United States. Locate the Colorado River. Explain to students that the water used by our farming community begins on Colorado River at the Hoover Dam (Boulder Canyon Project) and ends right here in the Coachella Valley.

Procedure:

- Distribute scissors and a copy of **Water’s Pathway (Handout #3.2)** to each student.
- Have students cut out each section of the handout.
- Return to the *Water Vision* DVD. Begin at the section titled, “The Present.”
- **STOP the DVD at the end of the section which discusses the growing urban area and that growth and development continues to attract tourists. If you get to the meeting of the Coachella Valley Water District Board, you have gone too far.**
- As students view the DVD, have them place the waters path into the proper sequence. (Refer to the Teacher Information box below for the proper sequence.)

Teacher Information: Water's Pathway

The path the water follows includes: **Hoover Dam > Colorado River >Imperial Dam >All American Canal > Coachella Canal > Lake Cahuilla**

Water for Agriculture: Water travels from Hoover Dam 200 miles downstream along the Colorado River to the Imperial Dam near Yuma, Arizona. Water is diverted from the Colorado River into the All-American Canal where it travels 37 miles to the Coachella Canal, a concrete-lined aqueduct built between 1938 and 1948. This water travels along canals and is used to supply farming through an elaborate 500 mile underground irrigation system that supplies water to the high point of every 40 areas. Water not used for irrigation finally reaches Lake Cahuilla, the terminal reservoir.

Once you have stopped the video, have students share the path the water follows. Students may then glue the pathway onto a sheet of construction paper into the proper sequence.

Activity # 3 What are the Sources of Water?

Write the following chart on the board or on chart paper.

Main Sources of Water

Domestic Water	Water for Farming	Recharging the Ground Water	Recycled Water
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Return to the DVD *Water Vision* and view it until the end. Have students search for the 4 main sources of water in the Coachella Valley. These sources are:

4 Main Sources of Water for the Coachella Valley

- Domestic Water:** The underground **aquifer** serves the domestic water needs of the Valley. The aquifer is an underground layer of rocks, sediment and soil that is saturated with water. The valley's aquifer is bounded by the San Bernardino Mountains and Little San Bernardino Mountains, the Santa Rosa and San Jacinto Mountains, the San Gorgonio Pass, and the northwest shore of the Salton Sea.
- Water for Farming:** The **Coachella Canal** is a branch of the 82-mile All-American Canal. The All-American Canal was originally called the Imperial Canal because it dipped into Mexico. It was rerouted so it is all in the U.S. and was renamed the All-American Canal. Colorado River water is diverted into the All-American Canal at the Imperial Dam, about 18 miles west of Yuma, Arizona. The Coachella Canal terminates in La Quinta at Lake Cahuilla, which serves as a storage reservoir. Construction of a massive lining project for the Coachella Canal lining is currently underway. The project consists of lining 34.5 miles of the 122-mile Coachella Canal that are still earthen.
- Ground Water Recharge Facilities** – Water from the **California State Water Project** is used to recharge the ground water in the aquifer. 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. Through an exchange agreement with the California State Water Project, water from the Colorado River Aqueduct is released at Whitewater and is used to recharge our underground aquifer.

4. **Recycled Water:** Reclaimed water is used to **irrigate golf courses and greenbelt areas**. Reclaimed water is used for golf courses and greenbelt irrigation. The Coachella Valley Water District maintains a massive system of sewer lines to gather waste water from homes and businesses and transport it to reclamation plants where the water is reclaimed. This water is not drinkable.

After viewing the DVD, discuss the main sources of water and add notes to each section of the chart.

Construct a 4-Tab Book

Have students construct a four-tab book to show what they have learned about the sources of water.

- Fold a sheet of paper in half vertically (hot dog).
- With the paper horizontal, and the fold of the *hot dog* up, fold the paper in half from right side of the paper to the left of the paper.
- Holding the paper the same way, fold it in half again.
- Open the folded book to view four sections.
- Place your hands between the two thicknesses of paper and cut up the three *valleys* (folds) on the top layer only along the 3 folds. This will make four tabs.

Label each tab with one of the sources of water. Students use the book to write information they have learned about the four sources of water.

Conclusion for the Lesson

Return to the questions about water in the Coachella Valley posed at the beginning of the lesson. Discuss these again and any other questions that surfaced after viewing the DVD:

- Why is water an important natural resource?
- How does the water get here?
- What are the main sources of water?
- Where does the water bill come from?
- What affects and effects did the completion of the Coachella Branch of the All-American Canal have on the Coachella Valley? (Colorado River water is delivered to every forty acres of farm land in the Coachella Valley.)
- How did the break in the Colorado River's headwaters affect the irrigation canal? (It formed the Salton Sea.)

Assessment:

- Construct a page for the group's circle book, *Economy of the Coachella Valley*.
- Sequence the pathway that water for agriculture takes to get to the Coachella Valley.
- Construct a 4-tab book to write information learned about the four sources of water.

(Optional) Activity – “And the Desert Turned Green.

View this DVD which is also included on the DVD *Water Vision*. Although the video footage is older, it is a good review of the content covered in this lesson and it will enhance the student's knowledge of water in the Coachella Valley.

(Optional) Activity - Water Timeline of the Coachella Valley.

Refer to the **Water Timeline of the Coachella Valley (Handout #3.2)**. Using a transparency of the timeline, review the story of water in the Coachella Valley. As an alternative, cut out each event with its corresponding date and distribute one to each student. Have the students put the events in chronological order and then share their events with classmates. Refer also to **Additional History of Water in the Coachella Valley (Handout #3.3)**.

(Optional) Activity – Wind Power: Another Natural Resource in the Coachella Valley

(Handout #4) Wind is another natural resource of the Coachella Valley. Share with students information about the wind turbines, often called the “Palm Springs Windmills”, that are found throughout the San Geronio Pass.

Guest Speakers

Contact the Coachella Valley Water District, the Desert Water Agency or the Mission Springs Water District for information about sources of water. Invite a guest speaker to your classroom.

Other Interesting Water Information

- Refer to **Additional History of Water in the Coachella Valley (Handout #3.3)**.
- **Artesian water** was first discovered in the eastern end of the valley. It was the major source of water for irrigation.
- **Soil in the Coachella Valley** - Soil in the upper valley is very porous which causes rainwater to travel easily below the surface to form subterranean streams and wells. The soil in the lower valley is more clay and less porous. In order to locate the water, drills dig down deep into the soil to establish wells in the lower valley.
- **Whitewater River Storm Channel** – a 50-mile storm channel that runs from the Whitewater area north of Palm Springs to the Salton Sea. (East of Washington Street, the Whitewater River Storm Channel’s name changes to the Coachella Valley Storm Channel.) Over the years, cities with roads that travel through the Whitewater River bed have replaced these roads with bridges that permit traffic to travel safely over fast flowing water.

Handout # 3.1

Circle Book Writing Template

(See Dr. Porter for the template)

Water's Pathway

Imperial Dam	Colorado River
Coachella Canal	All- American Canal
Hoover Dam	Lake Cahuilla

Water Timeline of the Coachella Valley

1888	<ul style="list-style-type: none"> The first large artesian well is found near Walters (now Mecca). Walters serves as the main railroad stop for the miners.
1900	<ul style="list-style-type: none"> First large, hydraulic well is drilled near Indio.
1905	<ul style="list-style-type: none"> The Colorado River breaks through the channel of the Imperial Canal and begins flowing into the Salton Sink destroying the salt mines and the original railroad line. Much of the Torres-Martinez Indian Reservation land is under water. Finally, the flow of water is stopped in 1907.
1912	<ul style="list-style-type: none"> The first successful well is drilled in section 19 at Thousand Palms.
1915	<ul style="list-style-type: none"> The Coachella Valley Storm Water District is formed to help protect the local water sources.
1916	<ul style="list-style-type: none"> A huge flood devastates farm lands and towns and wipes out roads.
1918	<ul style="list-style-type: none"> Coachella Valley Water District is established.
1919	<ul style="list-style-type: none"> The Coachella Valley Water District proposes a canal to bring water into the valley from the east.
1921	<ul style="list-style-type: none"> Studies get underway to bring the Colorado River water to the Coachella Valley.
1927	<ul style="list-style-type: none"> Major flooding occurs throughout most of the Coachella Valley damaging land, roads and buildings and prompts renewed efforts at flood control.
1928	<ul style="list-style-type: none"> The Metropolitan Water District of Southern California is formed to build and pay for the Colorado River Aqueduct project.
1938	<ul style="list-style-type: none"> Construction on the Colorado River Aqueduct finally begins.
1939	<ul style="list-style-type: none"> Devastating floods again hit the valley.
1941	<ul style="list-style-type: none"> Work on the Colorado River Aqueduct is halted due to World War II.
1944	<ul style="list-style-type: none"> Work restarts on the canal to bring water to the Coachella Valley from the Colorado River.
1948	<ul style="list-style-type: none"> The Coachella Branch of the All-American Canal is completed. Colorado River water is delivered to the highest elevation of every 40 acres of farm land in the Coachella Valley.

Additional History of Water in the Coachella Valley

In 1896, the California Development Company was formed by Charles R. Rockwood. The new company boasted that there are great possibilities for agriculture in the Imperial Valley. The California Development Company actively marketed the concept that with the delivery of water, business success was certain, and the California Development Company was ready and able to provide the water.

Soon, Rockwood formed an association with George and William Chaffey. These men sought to take water from the Colorado River at Pilot Knob, near Yuma, and bring that water into Imperial Valley by canals. The delivery of water by the hastily-built canals would be used to irrigate Imperial Valley's crops. On 14 May 1901, Rockwood and the Chaffey brothers were successful in bringing water through the Pilot Knob head-gate. For the first time, irrigation of the Salton Sink became a reality. Crops started to flourish. With the canals, the irrigation of the Salton Sink and crops flourished, and the future was set for what would soon become the Salton Sea.

By late summer of 1904, problems began to develop with the water delivery system. Silt built up and choked off the hastily made canals. Water-dependent new residents of Imperial Valley began to worry and soon filed a "lack of water" lawsuit.

Drastic action was called for. As a result, a cut was made into the West Bank of the Colorado River to allow water into the canal. The cut was successful, and water flowed again.

Unfortunately, disaster occurred when unpredicted storms in the northern United States began. In addition, great flood waters cascaded down the Colorado River. By June of 1905, engineers watched as 90% of the Colorado River rushed into the Coachella Valley.

In summary, well-intended early land developers of the early 1900s were successful in their promise to provide water for agriculture. Their efforts took a tragic turn, however, when floods and unpredicted storms along with hastily made canals caused 90% of the Colorado River to cover much of the east end of the Coachella Valley. The rushing waters caused a huge lake to rapidly form and to panic residents and investors alike. But a treasure was born out of the flooding of the Coachella Valley's calamity. It was the formation of the **Salton Sea**.

In the 1930's, the largest construction project in the world during those depression days, was the building of the Metropolitan Aqueduct to carry Colorado River water to the Los Angeles Basin. Indio was the center for distribution of supplies to the mining crews building 92 miles of tunnel through the eastern mountains. The city was not only the supply depot, but also the recreation center for the thousands of miners involved in the work.

Following the war, the completion of the Coachella Branch of the All-American Canal brought expansion and growth of the agricultural industry. Indio became a center for retail services and stores and for processing and packing facilities for valley produce. Indio's population grew from 5,300 in 1950 to 13,450 in 1964.

Wind Power: Another Natural Resource in the Coachella Valley

Background Information

In addition to water, wind is also a natural resource. There are nearly 4,000 individual wind turbines throughout the San Geronio Pass. The purpose of these wind turbines is to produce emission-free, natural energy for the surrounding areas utilizing one of the windiest areas in California. Average annual wind speeds clock in at 15-17 mph.

Investors, including individuals, corporations, and wind turbine manufacturers, own the turbines that produce energy for Southern California Edison. The first wind turbines were constructed in 1982.

Often called the “Palm Springs Windmills”, the wind turbines produce 600 million kilowatt-hours (kWh) annually. For comparison, one kWh powers a 100-watt light bulb for 10 hours; thus they provide enough electricity to power almost the entire Coachella Valley.

The towers, which were built with cooperation of the American government’s National Aeronautics and Space Administration or NASA, adjust to point into the direction of the wind, while other towers sway when a sensor is tripped, prompting them to move into the oncoming breeze. The compartment at the top of the mills (that contains the hub, generator and gearbox) weights between 30,000 and 40,000 pounds. The sweep of the rotary is the size of half a football field. The cost of a single turbine can be upwards of \$300,000.

Information tours for the “Palm Springs Windmills” are led Wednesday through Saturday for most of the year. For tours and additional information, call (877) 449-WIND.

Lesson 4

Focus Questions:

Where do our goods come from, and how do they get to our community?

What goods are made locally, elsewhere in the United States, and abroad?

Activity # 1 Where Do We Get the Things We Need?

Create partners of *only* boys with boys and girls with girls. Have each student pair identify the manufacturer's location (read the manufacturer's label) of one article of clothing worn to school. Record each pair's information (see below) on a chart or on the board.

<u>Type of Clothing</u>	<u>Brand Name</u>	<u>Country</u>
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Locate the manufacturing locations on a world map. Total how many articles were made in the local community, elsewhere in the United States, and in countries abroad.

Activity # 2 We Depend on Each Other - International Trade

Explain to students that because resources are limited, countries need to trade with each other to get the goods they need.

Materials Needed: World map, lengths of four different colors of yarn

Copies for each student of **Family Homework – Household Survey (Handout # 4.1)**.

Distribute a copy of **Family Homework – Household Survey (Handout # 4.1)**. Ask students, "Have you or your family ever purchased a product made in a different country?" Encourage discussion by mentioning the brand names of various products and having students identify where those goods were made: Toyota cars- made in Japan; Mercedes automobiles- made in Germany; Sony television sets- made in Japan; and, Adidas tennis shoes- made in Taiwan.

Explain the Household Survey assignment.

You will conduct a survey of goods at home to identify where they are made. For electronic products and household appliances, check the name plate generally found on the back or bottom of the product. If desired, brand names may be researched on the internet.

When the class has completed the Family Homework – Household Survey (Handout # 1), make the following chart on the board or on a sheet of chart paper.

<u>Item</u>	<u>Brand Name</u>	<u>Country</u>
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By category (electronics, transportation, household appliances, clothing), have students report the names of the brands and the names of the countries for each category.

Ask students to think about the results of the survey. Were they surprised by the number of products they found in their homes from other countries?

Use a world map to locate the countries which produce the products and goods we have in our homes. Then use different colors of yarn to represent the different categories of products (e.g., yellow for electronics, green for transportation, blue for household appliances, red for clothing). Have the lengths of colored yarn join the country of product origin with the students' community, state or nation as dictated by the map's level of detail.

After the yarn is in place, ask:

- What areas or countries of the world do we seem to trade with the most? (e.g., Western Europe, Japan, Italy, Germany)
- With what countries do we appear to trade very little? (e.g., Africa, Australia, Mongolia, Columbia, Russia)
- Why would we tend to trade with some countries more than others? (Some countries **specialize** in producing goods that Americans want and offer goods at a price that Americans are willing to pay. The United States government has **trade agreements** with many countries, but not with all countries. For example, the United States trades heavily with Japan, but not with Libya.

Activity # 3 U.S. Trade with Countries Abroad

Procedure:

- Display or distribute individual copies of a World map.
- Ask each student to make a list of at least 5 countries in the world that they think might **export** goods to the United States.

Next, share the information on the chart below. (Refer to Handout #4.2 for a copy.)

Imports to U.S. 2017

Data are goods only, on a Census Basis, listed in billions of dollars

Rank	Country	Imports	Percentage
-----	TOTAL, All Countries	185.8	100%
-----	TOTAL, Top 15 Countries	147.2	79.2%
1	China	41.4	22.3%
2	Canada	24.3	13.1%
3	Mexico	23.5	12.6%
4	Japan	10.5	5.7%
5	Germany	8.8	4.7%
6	Korea, South	6.0	3.2%
7	United Kingdom	4.3	2.3%
8	Ireland	4.0	2.2%
9	Vietnam	4.0	2.1%
10	India	3.8	2.0%
11	France	3.8	2.0%

12	Italy	3.6	2.0%
13	Taiwan	3.4	1.8%
14	Switzerland	3.1	1.6%
15	Malaysia	2.9	1.6%

Source: U.S. Census Bureau

Compare the data on this chart with the results of the students' hypotheses and with their Household Surveys. Ask students, "Why might there be some differences?"

(In the rankings listed above, U.S. imports are grouped into categories such as agricultural commodities, manufactured goods, mineral fuels, and other commodities. Not all of these categories are on the list of items surveyed by the students.)

Activity # 4 Busiest Ports in the United States

Procedure:

- Display a map of the United States or distribute individual copies to students.
- Ask students to make a list of five cities in the United States that they think might have large ports that import or export goods to and from other countries of the world.
- After students have made their lists, share the information on the chart below. (Refer to Handout #4.3 for the Busiest U.S. Ports, 2020 – Rankings of the top 30 Busiest U.S. Ports)

Compare the results of this chart with the results of the student's hypotheses. Why might there be some differences?

Activity # 5 Transportation in the Coachella Valley

Transportation, especially the railroad, has been a key to getting crops and other locally-produced goods to market. With the coming of the railroad in 1877, stage routes along the Bradshaw Trail came to an end. To encourage the building of the railroad, the Federal Government awarded alternating sections of land on each side of the tracks to the Southern Pacific Railway. The government retained the even-numbered sections until years later when these mile-square pieces were converted by the President to reservation lands for the Cahuilla Indians.

Growth of the Coachella Valley over the years is attributable both to the railroad and the coming of U.S. Highway 99 in 1923. Then in 1964, California's main north-south highway, US 99, was decommissioned. Its present-day replacements are California State Highway 111, California State Highway 86 and Interstate 10.

Refer to the **Transportation Timeline of the Coachella Valley (Handout #4)**. Using a transparency of the time line, tell students the story of transportation in the Coachella Valley. As an alternative, cut out each event with its corresponding date and distribute one to each student. Have students first place their events into chronological order and then have them share their event with classmates.

Current Issues in Transportation

Distribute copies of current day maps of the local region. American Automobile Association (AAA) maps work well. Ask students, "What can we tell about transportation today?" Make note of the major highways and transportation systems.

Discuss current problems of transportation and rail. Discuss the problems of moving people and goods.

Collect maps and articles from newspapers about transportation systems (i.e., trucks on the highway; increased traffic; the need for additional freeway interchanges off Interstate 10; the new transportation center to be built in Indio on the grounds of the former Indio Train Depot; and, proposals for passenger rail service between the Coachella Valley and Los Angeles)

Discuss how communities work to solve their transportation problems.

Lesson Conclusion

Review with students that some things we need are made locally, some elsewhere in the United States, and some abroad. Ask questions such as:

- What goods are produced locally?
- What goods that we use are produced elsewhere in the United States?
- What goods that we use are produced abroad?
- How are these goods transported to our community?

Assessment:

- Student pairs identify the manufacturer's location of one article of clothing worn to school and locate the manufacturing locations on a world map.
- Conduct a Survey of Household Goods to identify where they are made and report the names of the brands by category (electronics, transportation, household appliances, clothing) and the names of the countries for each category.
- Make a list of at least 5 countries in the world that you think might export goods to the United States and compare your hypotheses with the data on the chart Imports to the United States, 2017
- Make of list of five cities in the United States that you think might have large ports that import or export goods to and from other countries of the world and compare your hypotheses with the date on the chart *Busiest U. S. Ports, 2020 Rankings of the Top 30 Busiest U.S. Ports*.
- Answer the questions
 1. What goods are produced locally?
 2. What goods that we use are produced elsewhere in the United States?
 3. What goods that we use are produced abroad?
 4. How are these goods transported to our community?

Family Homework – Household Survey

Directions: Use this chart to search for products in your home. In the columns provided, write the brand name of the product and the country it came from. In the blank columns, add items of your choice. Include products made in the United States as well as those made in other countries.

	Electronics	Brand Name	Country
1.	Television		
2.	Cell phone		
3.			
4.			
5.			

	Transportation	Brand Name	Country
1.	Car		
2.	Bicycle		
3.			
4.			

	Household Appliances	Brand Name	Country
1.	Toaster		
2.	Stove		
3.			
4.			
5.			

	Clothing	Brand Name	Country
1.	Shoes		
2.	Shirt/blouse		
3.			
4.			
5.			

Name _____ Date _____

Imports to the United States, 2017

Data are goods only, on a Census Basis

Listed in billions of dollars

Rank	Country	Imports	Percentage
-----	TOTAL, All Countries	185.8	100%
-----	TOTAL, Top 15 Countries	147.2	79.2%
1	China	41.4	22.3%
2	Canada	24.3	13.1%
3	Mexico	23.5	12.6%
4	Japan	10.5	5.7%
5	Germany	8.8	4.7%
6	Korea, South	6.0	3.2%
7	United Kingdom	4.3	2.3%
8	Ireland	4.0	2.2%
9	Vietnam	4.0	2.1%
10	India	3.8	2.0%
11	France	3.8	2.0%
12	Italy	3.6	2.0%
13	Taiwan	3.4	1.8%
14	Switzerland	3.1	1.6%
15	Malaysia	2.9	1.6%

Source: U.S. Census Bureau

Busiest U. S. Ports, 2020 Rankings of the Top 30 Busiest U.S. Ports

Rank	Port
1	Los Angeles, CA
2	Newark, NJ
3	Long Beach, CA
4	Savannah, GA
5	Houston, TX
6	Seattle, WA
7	Tacoma, WA
8	Norfolk, VA
9	Charleston, SC
10	Oakland, CA
11	Miami, FL
12	Baltimore, MD
13	Port Everglades, FL
14	Philadelphia, PA
15	New Orleans, LA

Rank	Port
16	San Juan, PR
17	Mobile, AL
18	Jacksonville, FL
19	Wilmington, DE
20	Boston, MA
27	San Diego, CA
28	Port Manatee, FL
29	Freeport, TX
30	Everett, WA

Transportation Timeline of the Coachella Valley

1862	<ul style="list-style-type: none"> The William Bradshaw Trail stage route starts through the Banning Pass from Los Angeles to the gold fields of Arizona.
1872	<ul style="list-style-type: none"> The survey party for the railroad reached the present site of Indio.
1876	<ul style="list-style-type: none"> The Southern Pacific Railroad's first steam engine makes the run between Los Angeles and Indio on May 29th. The next year the line is completed from Indio to Yuma.
1879	<ul style="list-style-type: none"> The use of the Bradshaw Trail as a stage route loses out to the Railroad.
1888	<ul style="list-style-type: none"> The first large artesian well is found near Walters (now Mecca). Walters serves as the main railroad stop for the miners.
1911	<ul style="list-style-type: none"> First airplane lands in the Coachella Valley at Mecca, on a transcontinental flight.
1916	<ul style="list-style-type: none"> A wooden "plank roadway" system is constructed across sand dunes. The roadway is used for ten years.
1917	<ul style="list-style-type: none"> A portion of the local plank roadways burn. To keep from getting stuck in the sand, the ruts are commonly filled with straw. The fire is said to have resulted from a carelessly dropped "Roll-Your-Own."
1917	<ul style="list-style-type: none"> Ms. Zaddie Bunker opens the first automotive garage in Palm Springs.
1919	<ul style="list-style-type: none"> The first street lights in the Coachella Valley are installed by the Indio Lighting District.
1923	<ul style="list-style-type: none"> Highway 99, connecting Indio and the Imperial Valley, opens officially with a public street dance at the newly paved intersection with Jackson Street.
1927	<ul style="list-style-type: none"> The idea of a "white line" down the center of highways is finally adopted by the state, at the instigation of the Indio Women's Club.
1928	<ul style="list-style-type: none"> The first valley airstrip is built on Indian land south of Indio.
1930	<ul style="list-style-type: none"> The Coachella Valley Airport opens. It is in the triangle bounded by Hwy. 111, Ave. 48 and Van Buren Street. American Airline and local pilots use the facility.
1932	<ul style="list-style-type: none"> Highway 74, Palms to Pines Highway, first opens as a gravel road and then later is paved.
1939	<ul style="list-style-type: none"> Palm Springs' first airport is a landing field built by the Army Air Corps.
1942	<ul style="list-style-type: none"> The Indio Rail Yards serve as a major supply point for the Desert Training Center facility. Rail service is provided by steam locomotives.
1942	<ul style="list-style-type: none"> The 21st Ferry Command from Long Beach establishes an air base in Palm Springs. Because of the coastal fog and inclement weather, this base serves as an alternate site for flights originating east of Palm Springs. The base handles C-47s, P-38s, P-51s, and A-20s. A portion of the base serves as an Italian Prisoner of War Camp.
1941	<ul style="list-style-type: none"> Motor Vehicle Pool is set up in Palm Desert to support General Patton's command.

1943	<ul style="list-style-type: none"> Coachella Valley resident Jacqueline Cochran is named Director of Women's Airforce Service Pilots.
1945	<ul style="list-style-type: none"> The Aerial Tram Bill for Mt. San Jacinto passes in the Senate.
1948	<ul style="list-style-type: none"> The Salton Sea Speedboat Regatta draws thousands.
1951	<ul style="list-style-type: none"> Road improvements start. Hwy 99 becomes four lanes. Hwy 111 from Mecca at the Imperial County line has dips removed.
1963	<ul style="list-style-type: none"> The Palm Springs Ariel Tramway opens.
1964	<ul style="list-style-type: none"> The first commercial flights to Palm Springs Airport, owned by the city, arrive, stimulating construction of a \$1.4 million terminal building.
1966	<ul style="list-style-type: none"> The historic Southern Pacific Depot in Indio burns.
1969	<ul style="list-style-type: none"> Four major valley bridges are wrecked by floods, including the bridge over the storm channel on Interstate 10 (Blythe highway) just south of Thermal.
1973	<ul style="list-style-type: none"> The Southern Pacific Railroad announces plans to phase-out its Indio operation. 46 local employees will be moved to Colton, a significant loss to Indio.
1974	<ul style="list-style-type: none"> An "experimental" blow-sand screen of tamarisk trees is planted along I-10 north of Ramon Road.
2004	<ul style="list-style-type: none"> Thermal Airport is renamed the Jacqueline Cochran Regional Airport.

Timeline dates adapted from *The 2000 Periscope: A Century of Change in the Coachella Valley*, published by The Coachella Valley Historical Society.

Lesson 5

Focus Questions:

**What individual economic choices and trade-offs do people make?
What are the benefits and costs of the tradeoffs?**

Activity # 1 Earning Income

Ask students:

- Why do people work to earn money?
- How people earn the money that they spend?

Help students realize that people earn money by working. **The money people are paid for a job is called their *income*.**

Point out that people do these jobs to earn an income so they will have money to spend on the things that they need and for things that they want. People use most of their income to pay for things they use every day. They also use it to buy the things they want.

The part of the income that people do not use to buy goods and services is called **savings**. People often keep their savings in a bank, or they invest it. Ask students to explain the benefits of saving money.

Take a Survey. Have students ask adults in their family how they earn their income. (For confidential reasons, this does not need to be shared in class.)

Activity #2 Investing in Yourself

Materials needed: A copy for each student of **My School Plan** (Handout #5.1; Vocabulary card for *human capital*;

Display a vocabulary card for the following term: ***human capital*** is the decision made about how to use your energy and your time. Explain to students that the way you use your personal human capital now can help you plan for the future.

Ask students, “What can you do to invest in your human capital?” One answer to this question is to develop a plan for your schooling. Distribute copies of **My School Plan (Handout # 5.1)**. Help students complete their plan. If desired, the school plan may be completed at home.

Activity # 3 Make an Economic Choice

Background information for students:

Explain that people have to make choices about what to do with their income. Most people do not have enough money to buy everything they want, so they must make choices. They have to learn how to make good decisions about how to spend their money.

Each of these individual choices involves **trade-offs** and **opportunity costs**.

trade-off - the giving up of one thing in return for something else

When you buy or do one thing with your money, you have to give up the chance to buy or do something else. This is called a *trade-off*.

opportunity cost - what you give up to get what you want

When you spend part of your income on certain things, you give up spending it on other things. What you give up is called the *opportunity cost*.

Buyers make choices regarding what good or service and how much of it they will purchase. Their choice depends on:

1. how much money they have
2. how valuable they think the good or service is to them
3. their opportunity costs, or the next best alternative they give up to obtain the particular good or service.

In this activity, students will pretend to be producers and consumers in Communityville.

producer - someone who makes and sells a product

consumer - a person who buys a product or service

Activity:

Students will take a make-believe trip to a mini-mall. Some students will be **producers**, and some will be **consumers**. The activity will be repeated so all students will have an opportunity to be both a consumer and a producer.

Directions to the Teacher:

Assign producer and consumer roles according to class size. There are 6 producer work-places where up to 3 students can work. The remaining students will be consumers. Divide the class in half, making one half producers and the other half consumers.

Procedure: (See Dr. Porter for the following Handouts.)

- The producers will take up positions at 6 locations around the classroom. The producers will have signs at their locations naming the good or service they are selling (**Handout #5.2**).
- Each consumer should have a **Consumer Card (Handout #5.3)** listing all the choices available at the Communityville Mini-Mall.
- Each consumer should have \$12 (in one-dollar bills) to spend (**Handout #5.4**).
- The consumers will then choose the goods or services they want to buy. (They may choose more than one good or service.)
- The consumers will then go to the producer (or seller) of the good or service they choose and buy it with their “money.”

Note: Be sure to instruct students to record each decisions to buy or not-to-buy in the separate columns of the Consumer Card. The consumers will not have enough money to buy all the items on the Consumer Card. Consequently, the consumers will be forced to make **choices**.

- When the consumers have made all their choices, all students will return to their desks. Instruct producers and consumers to EXCHANGE roles and REPEAT the simulation.

Discuss the results of the simulation:

To increase participation, students will first share their responses with a partner and afterward discuss their decisions with the class. Use a signal, such as raising your hand, to call the class back to order to begin the class discussion. Ask students the following questions:

- Did you have enough money to buy all the items on the card? (No.)
- What did this force you to do? (Make choices.)
- How did you decide what to buy? (Personal liking, expected satisfaction, favorable prices)
- What did you not choose? (Answers will vary.) Why? (Did not suit personal preference, not enough money, wanted one of the other choices, too high a price)

Discuss the Consumer Cards:

Help students understand that when they made one choice, they gave up the opportunity to enjoy the benefits of another possible choice. They gave up the chance to buy one thing when they chose the other.

- What things did you give up? (*Answers will vary, but should include one or more of the six possible choices or the “save” option.*)
- Did some of you decide to save your money for a future choice? Why? (Did not like all of the choices or did not have enough money left to buy any of the remaining choices.)

Make the following chart on the board or chart paper:

Bowling alley	
Toy store	
Restaurant	
Amusement arcade	
Candy shop	
Movie theater	

Ask, “How many of you chose the bowling alley in today’s game?” Have students raise their hands to answer. Count the responses and record the number in the box. Repeat this procedure for the toy store, restaurant, amusement arcade, candy shop, and movie theater.

Discuss the results on the chart:

- In today’s marketplace, what items did consumers buy the most?
- Why did some producers sell more items than others? (More students chose one good or service over the others in the market place.)

Explain that what consumers buy helps tell businesses what and how much to produce. Businesses produce goods and services they know or hope people will buy.

Relate the simulation to the students own lives:

- What goods and services do you buy?
- What influences your choices? (price, quality, the kinds available, personal likes)
- What will happen if nobody buys the products a local business offers? (The business will close or change the products it sells.)

Assessment:

- Take part in a simulation as a producer and as a consumer
- Complete the Consumer Card
- Discuss choices

My School Plan

Name: _____ Date: _____

My birth date was: (Month, Day, Year) _____

School	Year of Entering	School	Age at Graduation	Graduation Date
Pre-School (Optional)				
Kindergarten				
Elementary School				
Middle School/ Junior High				
High School				
College				
Graduate School (optional)				

List some of the different jobs that interest you. _____

Choose a job. Write some of the kinds of skills and knowledge you need to have to do that job one day. _____

Producer Signs

Producer Signs

Consumer Card

My Choices Are:	Price	I Chose to Buy	I Gave Up the Chance to Buy
Bowling	\$4.00		
Toys	\$4.00		
Restaurant (lunch)	\$2.00		
Amusement Arcade	\$5.00		
Candy	\$1.00		
Movies	\$5.00		
SAVE			

Name _____ Date _____

Handout # 5.4

Extended Activities for Unit 5 Economic Resources and Choices

Natural Resources

The first three activities review the concept that the production of goods or a service involves the use natural resources, human resources, and capital resources.

Materials Needed for each group:

1. A set of **Natural Resource Labels** (see below)
2. Reference materials such as a dictionary or an encyclopedia
3. A variety of realia to sort. For example:
 - Plant: apple, potato
 - Tree: newspaper and cardboard
 - Animal: wool items, milk (use milk carton) and beef jerky
 - Metal ore: pennies and soda cans
 - Oil and natural gas: Plastic items
 - Water: bottled water and flavored water

Review that a *natural resource* is an item from nature that can be used either in its natural form or is used to make a product; water, oil, wood, livestock and iron are examples.

Have one student in each group make **Natural Resource Labels** (see below) and place them on the desk. Students sort the items in their realia bag into the appropriate categories.

Next, have students do a “walk around” the room to look at how other groups have sorted their materials. Upon returning to their work area, students may make adjustments to their sorting.

Have each group share their results and discuss how natural resources are used in the production of many goods.

Natural Resource Labels

Plant	Tree
Metal Ore	Oil and Natural Gas
Animal	Water

Human Resources

A *human resource* is the work or labor we perform as teachers, steel workers, computer programmers, or construction workers. This resource includes the people necessary to obtain the natural resource; develop a product or service; and, distribute and sell that product or service.

Select a service such as a “dentist.” Brainstorm all of the types of human resources (people) a dentist might rely upon. For example, a dentist may need a dental hygienist, a receptionist, a person to file insurance claims, etc., depending upon the size of his business.

What types of human resources might a fast food business need? (Note: Keep it simple or as complex as you wish. The human resources may be limited to the people who work in the business, or you can discuss all of the human resources needed from outside the business (truck driver, farmer, etc.).

Have students list the *natural resources* they think a framer (the person who builds the framework of a house) would need to frame a house (wood, nails, hammers and blueprints). Brainstorm all the *human resources* involved in supplying these materials (lumberjack, salesman, and architect).

Capital resources

Capital resources include all the materials and products as well as the money necessary to produce, distribute, and sell a product or a service. Bank loans, savings and taxes are examples of capital resources; the tools used in the production process; such as drills, computers, printing presses, and entire factories are some other examples.

Ask students how they think people who produce a good or a service get the money or capital resources to open a business? (loans, savings, paycheck or a combination of these).

Have students fold a piece of paper in thirds and title the columns:

Materials Needed (Natural Resources)	People Needed (Human Resources)	Money Needed (Capital Resources)

Have students chose a service and fill in the columns. Keep it simple. Possible ideas include: policeman, dressmaker, computer technician, cook, waitress.

Natural and Human Resources

Have students list the natural resource (trees) and the human resources necessary to make a sheet of paper they use in the classroom. A sample flow chart might include:

Trees --- Logging Yard --- Paper Mill --- Store --- Classroom

Yellow Pages Scavenger Hunt

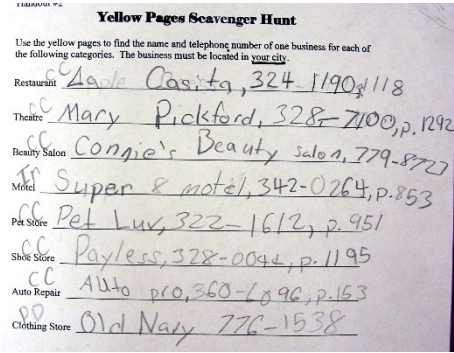
Use the yellow pages to complete a scavenger hunt to locate businesses in different categories. **Select 5 items** you would like to purchase, determine whether they are goods or services, and locate a business in the yellow pages that provides each of the goods or services.



Business Card Round-Up (Note: Collect business cards from several businesses in your local community.)

Have students categorize the cards according to providing a “service” or a “good.”

Have the students work together to put the cards in to categories and then alphabetize the cards in each category. Make a directory with the cards.



Business Interviews to Determine the Types of Resources Businesses Need

On a map of the local community, locate some of the businesses found in the Business Card Round-Up and/or the Yellow Pages Scavenger Hunt. Brainstorm with the students the types of questions they might want to ask someone who works at one of these businesses.

Work with students to create a Community Business Interview Guide. Have each student, or groups of students, conduct an interview with a member of the local business community and complete the interview guide. For extra credit, students can bring in a photo of the business and the community member interviewed. Create a bulletin board display.

Name of the Business: Westfield Shopping Plaza

Items Necessary	Natural Resources	Human Resources	Capital Resources
A large building Lots of stores Restaurants Parking area	Plant Water Natural gas Metal ore	Clerks Security Maintenance Managers Executives	Bank or private loan

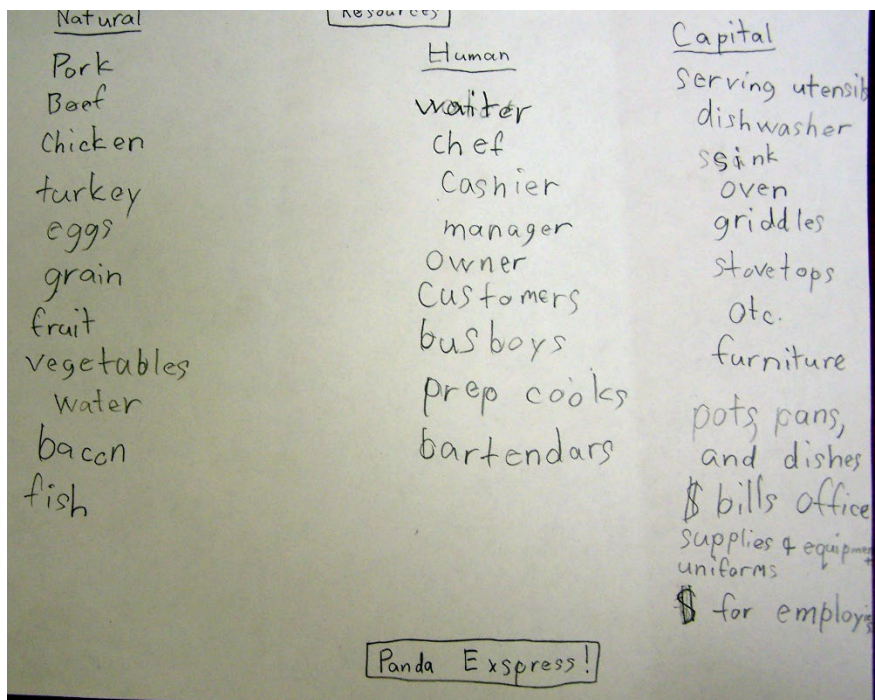
Have students report to the class the information gained during their interviews. Discuss the resources necessary to run each business.

Complete a resource matrix like the one shown above or at the right.

This project is challenging for third grade students. Teacher guidance may be necessary.

The chart on the right refers to the resources used by the restaurant, Panda Express.

Help students develop a basic economic understanding of natural, capital and human resources through the creation of the small business, *Community Lemonade*.



Display a chart with the following captions: Natural Resources, Human Resources and Capital Resources. Students generate a list of resources necessary to run a lemonade stand.

Item Needed	Natural Resources	Human Resources	Capital Resources
Lemons	Plant	People to squeeze the lemons	Teacher loan to purchase items needed
Water	Water	People to pour the water into the lemon juice	Lemons from our backyard
Sugar	Plant	People to mix	Teacher loan
Cups	Tree	Lumberjack Truck driver Paper processing plant	Teacher loan

After making the lemonade, have students sell it at recess or lunch. Pay off the teacher loan and use the profits (if any) for a class treat.

Other Extended Activities for Unit 5:

- **Future Yellow Pages** – Students brainstorm goods and services needed in the future and create a “yellow pages” of the future. Put together in a yellow pages format.
- **Alphabetize business cards** from the community, or sort them into goods and services.
- **List of Services** - Compile a list of services provided in the local community. Ask parents and friends to evaluate the services your local community offers. Does the community have enough parks and recreational facilities? What could be done to try to get the community to increase its services for young people?

- **Complete a mock job application** form for a business in the community.
- **Plan a Community Bus Trip - Using the local Bus Service schedule, have students plan a bus trip in the community and trace their route on a local map. Students can also describe the route using cardinal directions.**
- **Business Map** - Plot the local businesses on a map of the local community.
- **“A New Business”** Map Extension - Students can create and add their "own" business to a map of the community. Students tell why they choose that location.
- **Comparison Shop** - Students compare 2 similar products (e.g., French fries from 2 different businesses, potato chips, canned fruit or chocolate bars). Students complete a product comparison. Using a panel report format, students evaluate the benefits and costs of these products.
- **Consumer Guide for the Local Community** – As a family homework project, have students go to a mall or group of stores to research the best buys using comparison-shopping. Upon return to the classroom, students put their reports together and create a "A Consumer Guide for the Local Community."
- **Classroom Economy** - Students set up a classroom economy for a week. Students generate a list of goods and services available and the capital needed to receive them. Students earn play money from completed class work. Students pay for goods such as lost pencils, and for services such as using the restroom during class time. Students may purchase a product (e.g., teacher-supplied pencils, erasers, stickers) at the end of the week with their savings. Students identify tradeoffs and evaluate the benefits and costs through discussion.
- Using **Business Directories** from the early 1900s, have students look for the names of various types of businesses. (To find a copy of an old business directory, check with the Chamber of Commerce, a local historical society, and/or public library.) Would these businesses be needed today? Sort the businesses according to buying or selling goods (products) or Service Provider
- **How do you travel?** Explain to students that transportation is the means of getting from one place to another. Have students write on a post-it note how they came to school this morning - walk, bus, car, bicycle? Chart and graph their responses. What other types of transportation are available in the Coachella Valley today? (Examples might include taxi, truck, bus system, railroad, airplane.)
- **Transportation Photo Analysis** - Provide students with a series of photographs showing types of transportation throughout Coachella Valley’s history. Have the students analyze the photos and arrange them in chronological order according to the time of their development. Students may need to research some types of transportation to determine the chronological order. Ask students: “How have transportation methods changed?” “Why have they changed?”

Creating a Community Almanac

Becoming Historians: Using Reference Materials to Learn About the Community

Students can find information about their community using a variety of resources such as maps, census data, yellow pages, and interviews. The information gathered by each group can be used to create a **Community Almanac**. Gifted students may wish to do more of the research independently.

Divide students into four collaborative groups and have each group select one of the four topics such as population, land usage, transportation, or business.

Explain to the students that as a minimum, each group is required to collect and analyze the following resources:

- At least one interview with a long-term community resident to gain information about their group's topic. (Students should develop a list of questions to ask before they conduct the interview so that they can get as much information on their topic as possible.) The information should be compiled and saved for a Community Brochure.
- A variety of photographs of the community "Now and Long Ago" that illustrate their group's topic. (Students should do research in the Public Library, at the historical society, with local residents, in old newspapers, etc. to find photographs that show how the community has changed over time.)
- "Interesting Facts" about the topic.
- "Important Dates" about their topic (recorded on the Community Timeline).

The teacher should be prepared to provide mini-lessons on how to:

- locate primary sources
- read nonfiction text and informational materials to develop an understanding and expertise on their topic
- read multiple books (and other resources) about one subject
- state the main idea in material read in his or her own words
- analyze data and draw conclusions
- distinguish between verifiable facts and value claims
- determine the reliability of a source
- determine the factual accuracy of a statement
- distinguish relevant from irrelevant information
- distinguish significant events from minor details
- put ideas into their own words

Gathering Data Students contact local real estate companies or write to community members to solicit information about the community. They can also collect pictures and/or relics from the past; draw upon historical maps, advertisements, documents, brochures, and community directories; visit the local historical society photograph collection; make telephone calls to community members; visit the Public Library; or, take group walking trips to a retirement home to interview senior citizens. The teacher should meet with each group periodically.

General Questions: What resources have you located? Which resources have been most useful? What other information would you like to locate? Is there any missing information? Have you found enough resources to enable you to make inferences about your topic? Did you find any conflicting information? How can I help?

Population: Where will you go to look for information about the population of the community? What information can you interpret from the census data? Did the population change? When? What could be the reason? Through interviewing and photographs, can you interpret who the people were that populated our community (such characteristics as age, ethnicity, and religion)? Who can you interview (parents or community members) to find out more information?

Land Usage: Where will you go to look for information on land use in the community? Interview a long-term resident and ask how the community has changed over time. What attributes of the physical environment make the community an attractive location? How has the physical environment changed? When? What did it look like? What natural resources do people use? What is the density of the land usage? How has the use of the land changed over time?

Transportation: Where will you go to find information about transportation? How has transportation changed over time? What type of transportation was used when the community was first developed? Did the type of transportation change? When? How can you find out?

Business: What types of businesses are located in the community? What are the major industries? Do members of your family work for these industries? Where will you go to locate information about businesses in the community? What business would each person in your group like to focus on? Where is it located? How did the business develop? What types of jobs are found at this business? What type of service does it provide? How long has the business been operating in the community? How has the business changed since it first opened?

Resources for the Economy of the Community

Baylor, Bird. *Best Town in the World*. Aladdin Books, 1982. ISBN0-689-71086-0. Develop community pride through telling what is best about where you live. This story depicts a rural way of life.

Bunting Eve. *Smoky Night*. Illustrated by David Diaz. San Diego, CA: Harcourt Brace, 1994. How do neighborhood riots affect children? Bunting uses the love of a pet as the common theme to bind those from different cultures during the Los Angeles riots. *Smoky Night* is a Caldecott winner.

Burton, Virginia Lee. *The Little House* Boston: Houghton Mifflin. 1978. ISBN 0-590-41383-X. A little house built in the country experiences many changes as the city grows up around it. The book is also available in Spanish.

Center for Understanding the Built Environment. *Walk Around the Block*. Prairie Village, Kansas: Center for Understanding the Built Environment, 1994. ISBN 0-9632033-0-4. The award winning curriculum project assists in the teaching of local history through a variety of student activities. Students tour home and school neighborhoods to create a visual history of the city, its buildings, and streets.

Cross, Verda. *Great Grandma Tells of Threshing Day*. Whitman and Co., 1992. ISBN0-8075-3042-5. Grandma explains about threshing wheat in the early 1900's.

Dragonwagon, Crescent. *Home Place*. Illustrations by Jerry Pinkney. New York: Aladdin Books. 1990. ISBN 0-689-721758-X. While out hiking, a family comes upon the site of an old house and finds some clues about the people that once lived there.

Draze, Dianne. *Our Town*. Illustrations by Dean and Pat Crawford. San Luis Obispo, California: Dandy Lion Publications, 1988. ISBN 0-931724-48-1. A guidebook with ideas for studying any community.

Collier, John. *The Backyard*. New York: Viking. 1993. A child imagines what has taken place in the backyard, from the present all the way back to the creation of the world.

Fraiser, Mary Ann. *Ten Mile Day*. Holt and Co., 1993. ISBN0-80-50-1902-2. Tells the story of where the transcontinental railroad is finally completed. It relates the story of migrant workers in this venture and explains how neighbors worked together.

Hall, Donald. *Old Home Day*. Illustrated by Emily Arnold McCully. San Diego, CA: Browndeer Press, 1996. ISBN 0-15-276896-3. The story of a fictional New Hampshire village is traced from prehistory to the bicentennial celebration of its founding. The book can be used to help begin an "Old Home Day" tradition in your community.

Halley, Ned. *Farm*. Knopf, 1996. ISBN0-679-88078-X. This book aptly describes the many types of farms and their machinery and tools. Many detailed descriptions and diagrams are used.

Highland, Monica. *Greetings from Southern California*. Portland, Oregon: Graphics Arts Center Publishing Co., 1988. ISBN 0-932575-71-4. Using old postcards of people and scenes, this picture book illustrates life in Southern California at the turn of the century. *Greetings from Southern California* can be used as a model for a student “scavenger” hunt searching for old postcards of their local community.

Hollenbeck, Kathleen M. *Exploring Our World: Neighborhoods and Communities*. Jefferson City, Missouri: Scholastic Professional Books, 1997. ISBN 590-89809-4. This collection of hands-on activities introduces students to their neighborhood and local community through literature, observation, and games.

Hornbeck, David *California Patterns: A Geographical and Historical Atlas*. Mountainview, California: Mayfield Publishing Company, 1983. ISBN 0-87484-583-1. This teacher resource depicts California’s contemporary landscape through an historical geography perspective. The book traces the changing patterns of California’s human and physical landscape from geologic formation to the present day. The author examines natural vegetation, weather and climate, early settlements, immigration, urban expansion, agricultural patterns, water systems, and economic patterns and trade.

Imagination Express – Destination: Neighborhood. Redmond, WA: Edmark. This CD-ROM program for Windows and Macintosh can be used to create interactive stories fueled by the power of the student’s imagination. The use of familiar settings and characters helps to encourage students to write about actual or imagined adventures in their neighborhood. Family and friends are joined by musicians, fire fighters, athletes and pets as student authors select scenes, choose and animate stickers, write, narrate, add music, and record dialogue.

Jungreis, Abigail. *Know Your Hometown History*. New York: Franklin Watts, 1992. ISBN 0-531-11124-5. This informative book includes research activities, mapping skills and projects to do for your local community. Information is included for creating a contour map and model of your town, making a “patchwork quilt” of local history, researching the history of a place name, and preparing a history time line. Tips for doing oral interviews are very helpful.

Kalman, Bobbie. *Tools and Gadgets*. Crabtree Publishing Co., 1947. ISBN 0-86505-488-4. This illustrated book details a history of tools and how they were used in the community. Included are tools that have replaced the old tools.

Kalman, Bobbie. *The Gristmill*. Crabtree Publishing Co., 1947. ISBN 0-86505-486-X. This is a story of how wheat grain is ground into flour. It shows how wheat can be ground using simple hand tools.

“Kids Discover-Oil”. Colorado: Edpress, 1994. This handy book includes excellent resources to pull for all aspects of oil industry; shows how oil is made, processed, past uses, and discusses problems of oil industry. Many useful charts and graphs are included.

Kurjian, Judi. *In My Own Backyard*. Illustrations by David R. Wagner. Watertown, Mass: Charlesbridge Publishing, 1993. ISBN 0-88106-811-X. This book’s great illustrations show how one particular land has changed over time from the present to the pre-historic period beyond the dinosaurs presence on earth.

Library of Congress. *American Memoryt Collection of Panoramic Maps*. URL: <http://llcweb2.loc.gov/ammen/pmhtml/panhome.html> This website provides a preview of the Library of Congress's extensive panoramic map collection. The panoramic map was a popular cartographic form used to depict U.S. and Canadian cities and towns during the late nineteenth and early twentieth centuries. The maps show street patterns, individual buildings, and major landscape features in perspective.

MacMillan, Bruce. *Grandfather's Trolley*. MA:Candlewick Press, 1995. ISBN 1-56402-633-7. This narrative story describes Trolley Car Days of the early 1900's. Beautiful tinted photos of long ago accompany the text.

Madgwick, Wendy. *CityMaze! A Collection of Amazing City Mazes*. Illustrated by Dan Courtney, Nick Gibbard, Dean Entwistle, and John Fox. Brookfield, Conn.: Millbrook Press, 1994. CityMaze takes readers on a tour of many of the world's most famous cities and explains the unique qualities of each of these cities. The panoramic illustrations help students examine the physical and human characteristics of these amazing cities.

McLerran, Alice. *The Year of the Ranch*. Illustrated by Kimberly Bulcken Root. New York: Viking, 1996. ISBN 0-670-85131-0. In 1919, Papa, Mama, and their four daughters homestead a tract of land near Yuma, Arizona, and try to turn a desert mesa into farmland and a shack into a home.

Muller, Jorg. *The Changing City*. New York: Margaret K. McElderry Books, 1977. ISBN 0-689-50085-8. Seven large fold-out pictures in full color of what can, and often does, happen in the process of the development of a city. The artist Jorg Muller portrays the same landscape at intervals of about three years starting in 1953.

Neighborhood Map Machine. Tom Synder Productions. This computer program enables students to make maps of their community.

Novelli, Joan & Chayet, Beth. *TheKids Care Book*. New York: Scholastic Professional Books, 1991. ISBN 0-590-49141-5. Filled with 50 class projects that help kids help others, this book has an entire chapter on ideas for community involvement projects.

**Reinke, Diane Wilcox, McGuire, Margit, and Reinke, Robert W. *The Community Publishing Company – Exploring the Community Marketplace*. New York: Joint Council on Economic Education, 1989. This teacher's resource manual is filled with lessons and activities students can do when studying about their community. Most of the activities have an economics focus.

Rylant, Cynthia . *When I Was Young in the Mountains*. Dutton Children's Books, 1982. ISBN0-14-054875-0. This story tells about a child who lives in Appalachia, her love of place, and family. The way of life can be compared to other communities.

Sanders, Scott Russell. *Aurora Means Dawn*. New York: Bradbury Press, 1989. Illustrations by Jill Kastner. ISBN 0-02-778270-0. Hardcover. After traveling from Connecticut to Ohio in 1800 to start a new life in the settlement of Aurora, the Sheldons find that they are the first family to arrive there and realize that they will be starting a new community by themselves.

Schug, Mark. C. and Berry, R. . *Community Study: Applications and Opportunities*. Washington, DC: National Council for the Social Studies, 1984. ISBN 0-87986-048-0. This booklet is Bulletin No. 73 of NCSS's series of professional books. Chapter V "Using the Visual Arts to Interpret the Community" by Terry Zeller provides a description of Public Art, whose aesthetic works one finds out of doors, such as buildings, statues, wall murals, and even gravestones. Many suggestions are provided for the study of the local community and its historic locations.

Shelby, Anne. *Homeplace*. Illustrations by Wendy Anderson Halperin. New York: Orchard Books, 1995. ISBN 0-531-06882-X. A grandmother and grandchild trace all that happens in their family history. *Homeplace* shows how one house has changed from almost two hundred years ago. Illustrations show signs of family life from the generations before them.

Siebert, Diane. *Train Song*. New York: Harper Trophy Publishers, 1990. ISBN0-06-443340-4. Rhymed text and illustrations are used to describe a variety of transcontinental trains.

Tscharner, Renata Von, and Ronald Lee Fleming. *New Providence: A Changing Cityscape*. Illustrations by Denis Orloff. Washington, DC: Preservation Press, 1992. The text and wonderful illustrations trace the evolution of an imaginary, but typical, American City from the turn of the century to the 1990s.

Timeliner. Watertown, MA: Tom Snyder Productions. A computer program for developing chronological time lines.

*Weitzman, David. *My Backyard History Book*. Boston: Little, Brown & Co., 1975. This book is packed with ideas and activities to get students on the road to understanding what their place is in history. Change in a community is included. This is a useful resource for teachers with a number of ideas for getting family involvement.

Wheatley, Nadia and Rawlins, Donna. *My Place*. New York: Kane Miller Publishers, 1992. ISBN 0-916291-54-5. Set in Australia, the story takes place over a 200 year period. The maps are useful for analyzing changes in land use and types of businesses.

Willard, Nancy. *Cracked Corn and Snow Icecream - A Family Almanac*. Illustrations by Jane Dyer. San Diego, CA: Harcolurt Brace, 1997. This books serves as a model for developing a Community Almanac.

Yolen, Jane. *Letting Swift River Go*. Little, Brown and Co., 1992. ISBN0-316-96899-4. This story tells about how a community had to change to adapt to growing populations around them. Students can adapt changes found in their community to this story.

General Sources

- Public Library Local History Room
- Historical societies
- Local telephone directory and/or directory for city hall - look for a list of the departments that serve the city such as the transportation department
- the city clerk or city historian
- long-time residents of the community

Sources for Transportation: Locate information on transportation in your community, including time schedules and maps from now and long ago

- Department of Transportation
- Department of Public Works
- Public transportation agencies
- Yellow pages of the telephone directory

Other types of transportation, such as shipping, have played an important role in the development of many local communities. Look for early photographs and maps that show the existence of transportation systems during the late 19th and 20th centuries.

Sources for Land Use: Locate information on land use in your community, including recent and old maps and photographs

- US Geological Survey - Telephone 1-800-USA-MAPS and ask for ordering information for the Topological Map Index and Aerial Photographs and Satellite Images. Local map stores often stock these invaluable resources.
- AAA (American Automobile Association)
- City archives - maps and photographs of the city from now and long ago
- City Planning Department

Sources for Business: Locate information about the businesses in your community.

- City Directories (see Population section above)
- Chamber of Commerce
- Yellow pages of the telephone directory
- Newspapers