

What's Growin' On? California Agriculture



More Than You Can Imagine!



CALIFORNIA FOUNDATION FOR
AGRICULTURE IN THE CLASSROOM

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Introduction

There is no better way to facilitate the learning of students than through real-life examples and experiences. When connections are made between the classroom and the lives of students, skills have meaning and knowledge is retained. There are many ways to link the classroom curricula to the lives of youth. Two such methods are described below and utilized in this teacher's guide.

- Weaving agriculture into teaching allows students to relate information to the food they eat, the clothes they wear, the homes they live in, and the open spaces they enjoy. Agriculture impacts our lives, more than we can imagine!
- The newspaper is a continuing source of information. When used in the classroom as an instructional tool, it becomes a resource that can help motivate students. Students discover the relevance of their classroom studies as they read news stories, learn about events and gather facts in the pages of the newspaper.

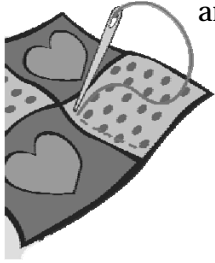
This *What's Growin' On? Teacher's Guide* provides activities that use agricultural examples and the newspaper to reinforce academic concepts taught in fourth through eighth grade. It was developed and reviewed by educators and shows how easy it is to use the local newspaper to teach problem-solving and critical thinking skills in the curricular areas of reading, writing, mathematics, science and social studies. The specific academic Content Standards for California Public Schools addressed in the activities are listed at the bottom of each page. The topics in this edition of the guide complement those highlighted in the California Foundation for Agriculture in the Classroom's student newspaper *What's Growin' On? California Agriculture... More Than You Can Imagine*.

The California Foundation for Agriculture in the Classroom (CFAITC) is dedicated to increasing the awareness and understanding of agriculture among California's educators and students. CFAITC provides educators with resources and programs that enhance agricultural literacy. To request a free teacher resource packet or copies of the current edition of *What's Growin' On?*, contact CFAITC via e-mail (cfaite@cfbf.com) or phone (800-700-AITC).

Newspapers in Education (NIE) is comprised of approximately 950 newspapers throughout the United States who promote and aid in newspaper education. Whether creating or offering special curricula or programs, NIE touches the lives of students in countless ways. Local NIE programs reach out to their educational communities by providing teachers with training and resources that expand the newspaper's use as an effective teaching tool—a real-life textbook to which students respond enthusiastically. For more information about California Newspapers in Education (CNIE), view its Web site at www.cal-nie.org.



California is Like a Patchwork Quilt

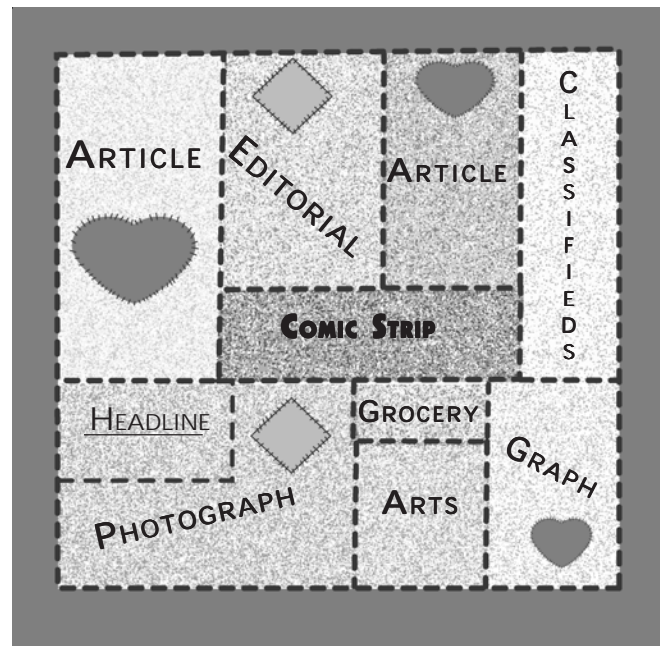


- California is like a patchwork quilt. Some squares are full of green forests and alfalfa fields. Others are golden rangelands and drying wheat fields. Waterways connect this unique landscape, which is appliquéd with cities that cover more than $\frac{1}{3}$ of the state. All of the people in these cities depend on agriculture. If you were to make a quilt of all of California's agricultural commodities, you would need over 350 squares! Agriculture is a part of your life... more than you can imagine!

Activity

Make a “newspaper quilt” described as follows.

- For several days, read your local newspaper and cut-out and store newspaper articles, advertisements, editorials, headlines, comic strips, photographs, graphs, weather information, classified ads and any other items you find in the newspaper that relate to agriculture. *Remember—agriculture is the business of producing, marketing and transporting food, fiber, forest resources and flowers.*
- Next, on a piece of poster board or blank newsprint, slightly larger than you think you may need, arrange the items to make a patchwork quilt. Remember, in a quilt, there cannot be open spaces. If you find that your items do not fit together neatly, use grocery ads to even things out.
- Glue your items into place.
- Make borders out of strips of newsprint or colorful construction paper.
- Display the “newspaper quilt” in your classroom or library.



Horticulture and You!

Name _____

Horticulture involves the growing of and caring for gardens and orchards including vegetables, fruits and ornamental flowers, shrubs and trees. Lots of people are involved in this business. There are talk show hosts who specialize in home landscaping. There are people who transport equipment. There are scientists who conduct research to find better turf grasses for golf courses. Don't forget the accountants who manage the money and the graphic designers who create advertisements promoting special equipment or flowers. As you can see, all kinds of people are involved in horticulture.

Activity

- A. Look through your local newspaper's "Classified Ads" section. Cut out three different "Help Wanted" advertisements, each offering a different kind of employment. Glue each job description in one of the two categories. Then, write a sentence that justifies your placement.

Ad #	Job Relates to Horticulture	Job Does Not Relate to Horticulture	Complete Sentence Which Explains Choice
1			
2			
3			

- B. Write down two abbreviations used in the advertisements and find out what they mean.

Abbreviation _____ Meaning _____
 Abbreviation _____ Meaning _____

- C. Put a ☺ next to the job that interests you the most. In one sentence, explain why.

- D. Put an X next to one job that does not interest you. Explain why not.

- E. Create a brochure! A unique marketing campaign is crucial for the success of a product. Brochures are a part of marketing plans. Kerstin Quillet founder of Pen & Petal, Inc., specializes in marketing horticultural products. Her science background and unique marketing skills have enabled her to build a strong business that combines her passions. Check out her "bio" at kids.cfaitc.org/wgo4/horticulture and, using the online program, create a marketing brochure of your own!

Standards: Reading-Language Arts • Grade 4 Reading 2.2 • Writing 1.0, 1.1, • Written and Oral English Language Conventions 1.0 Grade 5 Reading 2.1 • Writing 1.0, 1.2 • Written and Oral English Language Conventions 1.0 Grade 6 Reading 2.0, 2.1 • Writing 1.0, 1.2 • Written and Oral English Language Conventions 1.0 Grade 7 Reading 2.0, 2.1, 2.2 • Writing 1.0 • Written and Oral English Language Conventions 1.0 Grade 8 Reading 2.2.1 Written and Oral English Language Conventions 1.0

Find a Fiber

What comes to your mind when you think of the word “fiber?” Brainstorm with the class some examples of fibers.

Generally speaking, a fiber is any thread-like structure that is often bundled or twisted. In the textile industry, the word “fiber” is often used when discussing different substances that can be spun or woven into fabric.

Cellulose forms in the walls of plant cells and is the woody part of trees and plants. Wood, cotton, flax and hemp are examples of cellulose fibers. Wood fibers are used to make things such as paper and fabric. Cotton can be made into rope, ship sails and various types of clothing. Flax fibers make linen fabrics. Hemp is used to produce twine and specialty papers.

Animals produce fibers too. Their fibers are made of a protein called keratin. Wool comes from sheep. Cashmere fibers come from goats.



Activity

- Look through your newspaper and find a picture of an item that contains an agricultural fiber.
- Glue the picture on the top half of a sheet of paper.
- Next, find at least ten words in the newspaper that can be used to describe this item. Cut them out and glue them around the picture.
- Do a bit of research to find out how this product is made.
- Write a paragraph, on the bottom half of the page, that describes the agricultural products used to make the item. Mention where the fibers came from. Include at least four words you cut out from the newspaper. Be sure to write a topic sentence and a concluding sentence in your paragraph.

Did you know?

The “pill” of a baseball contains over 200 yards of wool yarn and 150 yards of cotton yarn, all rolled at certain tensions and then coated with rubber cement and a cover.



The Chicken and the Egg

Name _____

Activity

Look through the “foods” section and grocery advertisements in your local newspaper and find items that contain eggs or chicken meat. Remember, frozen foods and other items may contain these products too. Cut out the pictures and make a collage of the items you found. As you go, complete the chart below.

NAME OF FOOD	CONTAINS EGGS	CONTAINS CHICKEN MEAT
Frozen Egg Sandwich	X	

Was it difficult or easy to locate items that contained eggs or chicken meat? _____

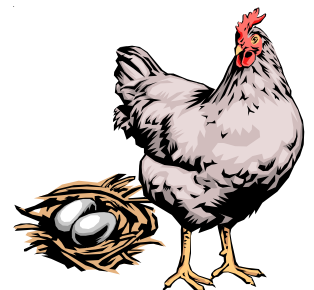
Imagine it were 100 years ago. Do you think it would have been easier or more difficult to find products that contained eggs or chicken meat? _____

Explain your reasoning in one complete sentence. _____

Did you know?

- A hen lays between 250-300 eggs each year.
- A chicken, on average, has more than 8,000 feathers. The number of feathers varies, of course, from one breed to another.

Source: California Poultry Federation



Standards: Grade 4 English-Language Arts: Reading 2.0, 2.2 Grade 5 English-Language Arts: Reading 2.0 Grade 6 English-Language Arts: Reading 2.0, 2.1, Grade 7 English-Language Arts: Reading 2.0, 2.1 Grade 8 English-Language Arts: Reading 2.0

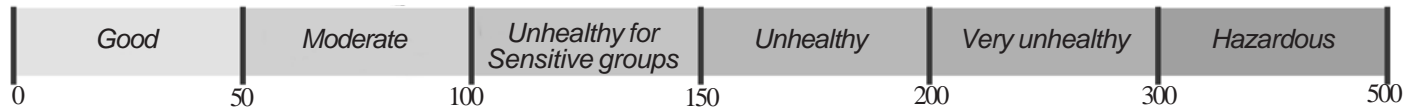
We Share the Air!

Name _____

Take a deep breath! Nothing is more refreshing than breathing the crisp, clean air after a rainstorm. Why? The air has been washed of pollutants. The pollutants we can see are called particulate matter. But most air pollution are substances we cannot see. They are gases that come from different sources.

- Ozone is a colorless gas made of three oxygen atoms. It forms when vehicle exhaust and other fumes combine with other substances in the presence of sunlight.
- Carbon monoxide is a gas we cannot see or smell and is made of one carbon atom and one oxygen atom. Sources of carbon monoxide include gasoline burning engines and natural gas appliances.
- Nitrous oxides are gaseous compounds made of nitrogen and oxygen. Vehicles and power plants that burn fossil fuels increase the amount of nitrous oxides in the air.
- Sulfur dioxide is made of one sulfur atom and two oxygen atoms. The burning of coal and charcoal, along with power plants and oil refineries, add sulfur dioxide to the air.

Air Quality Index



Track your local air quality for a of week. You can find this information on the weather page of your newspaper.

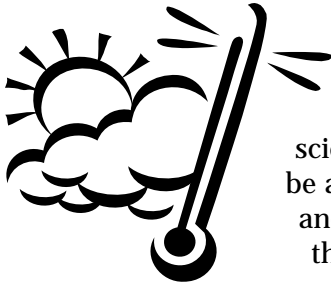
Date	Day of the Week	Temperature		Precipitation and Wind	Air Quality Index	Air Quality	Health Advisory
		Low	High				
Example	Monday	39	62	Foggy, no Wind	32	Good	No

On the back of this paper, write one well-written paragraph about what you observed from your data and what you learned about air quality. Did you notice any relationships between temperature and air quality?

Standards: Grade 4 English-Language Arts: Reading 2.0, 2.2 Written and Oral English Language Conventions 1.0 Grade 5 English-Language Arts: Reading 2.0 Written and Oral English Language Conventions 1.0 Grade 6 English-Language Arts: Reading 2.0, 2.1 Written and Oral English Language Conventions 1.0 Grade 7 English-Language Arts: Reading 2.0, 2.1 Written and Oral English Language Conventions 1.0 Grade 8 English-Language Arts: Reading 2.0 Written and Oral English Language Conventions 1.0

Watch the Weather

Name _____



Weather in a particular area is caused by a variety of things—the location of the sun (longitude and latitude, time of day, etc.), the area’s altitude, the season of the year, the proximity of land to large bodies of water, etc. Meteorologists study the science of weather and predict, using the data they gather, the weather. Farmers must be aware of the daily weather. Their livelihoods depend on it. With weather satellites and advanced computer software, farmers have access to technical data, which helps them to make appropriate decisions.

Activity

Take a look at your local newspaper’s weather map of the United States. Identify the weather symbols and learn what they mean. Now, copy today’s weather data onto the map.



1. What state is predicted to be the warmest today? _____
2. What state appears to have the heaviest precipitation? _____
3. California is the leading agricultural state. Over 350 kinds of agricultural plants and animals are produced in our state—some along the coast, others in the Central Valley and still others along rivers. Find three California locations and list today’s weather.
Location A _____
Location B _____
Location C _____
- 4) Where would you choose to be today? _____ Why? _____

Would this be a good place to raise animals or grow plants right now? _____

Extra! Extra! Read All About It!

Name _____

Introduction

Have you ever wondered where basil for pesto comes from? How about the lemon grass used in Thai food or the bok choy in Asian cuisine? Many farmers grow specialty items, providing you with lots of choices that impact your senses. Next time you are at the grocery store or farmers' market, find an item you have never tried before. Ask someone how to prepare and eat it. You are certain to find something that meets your fancy!

Q	X	G	X	W	Z	H	N	A	B	C	E	C	Z	U	O	L	E	M	O	P
N	H	V	Q	P	G	H	R	R	K	O	N	O	X	S	K	X	L	H	R	S
C	O	E	T	G	T	I	O	K	N	I	R	A	R	D	E	A	Z	O	F	I
L	A	M	C	F	C	B	M	U	U	M	U	I	E	E	Y	L	L	U	K	S
A	V	A	M	H	O	E	E	K	O	M	P	S	L	B	G	C	A	E	R	B
V	F	V	O	I	G	Z	T	L	Y	N	Q	S	U	O	A	A	U	P	J	Y
E	A	K	T	N	S	U	A	K	B	F	H	U	E	G	C	V	N	J	O	V
N	E	Z	H	K	B	R	D	Q	G	K	E	B	A	V	A	C	A	O	J	N
D	Z	Q	O	F	R	G	E	U	S	I	N	O	X	T	I	R	O	F	F	E
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B	N	Y	S	K	R	R	V	F	L	N	A	G	A	A	V	T	O	J	T	I
V	E	O	I	K	O	B	A	S	I	L	V	Y	H	L	V	A	U	W	J	R
Q	L	Q	E	D	U	W	C	Y	B	G	S	U	R	B	H	R	L	X	U	T
Z	N	V	R	V	T	G	F	L	A	X	O	P	Q	A	W	D	P	O	Y	B



In the word search, find some of California's niche commodities. Circle them.

- | | |
|-----------------|-------------|
| artichoke | kale |
| basil | kumquat |
| black pepper | lavender |
| bok choy | lemon grass |
| broccoli | mustard |
| Brussels sprout | nopales |
| cinnamon | olive |
| cotton | oregano |
| date | persimmon |
| fava bean | pluot |
| fennel | pomelo |
| fig | sugar beet |
| flax | thyme |
| hemp | vanilla |
| houseplant | wool |

Create a Store Ad!

Look through your newspaper and see how they appear in the paper. Next, think of ten agricultural products that you enjoy. Make a full-page advertisement for these products. Be sure to give your store a name, include pictures and prices and list the dates and locations where these prices are valid. Make your advertisement look as realistic as possible.

Standards: *English-Language Arts* • Grade 4 Writing 1.0, 1.1, 1.7 • Written and Oral English Language Conventions 1.0, 1.3, 1.6 Grade 5 English-Language Arts Writing 1.0, 1.2 • Written and Oral English Language Conventions 1.0, 1.4 Grade 6 English-Language Arts: Writing 1.0, 1.1 Written and Oral English Language Conventions 1.0, 1.3, 1.4 Grade 7 English-Language Arts • Writing 2.0, 2.1 Written and Oral English Language Conventions 1.0, 1.5, 1.6 Grade 8 English-Language Arts • Writing 2.0, 2.1 Written and Oral English Language Conventions 1.0, 1.5, 1.6

Just for Fun!

- A. Cut out healthy food items you find in the newspaper. Make a collage of them on a paper plate. Be sure to include items that you enjoy eating and are good for you. On the back of the plate, write a well-written paragraph that explains your exercise plan for the week.
- B. Think of your favorite plant. Using newspaper headlines, cut out large letters that spell out the name of your plant. Glue them going downwards on a sheet of paper. Now, for each letter, look through the newspaper and find a word or phrase that describes the plant. Glue them on the paper. Here is an example.

C colorful

O out of this world

R restaurant

N needs lots of water

- C. Look at advertisements in the newspaper. How many different kinds of ads can you find? Now think of your favorite nut or whole grain. Learn about this nut or grain by using the newspaper, Internet and books. Decide which kind of advertisement you will write. Create it. Be sure it has the style and appearance it should be located in a particular section. Glue into the appropriate section of an old newspaper. Share your ad with the class.
- E. Make California agriculture commodity trading cards using words, numbers and pictures from the newspaper.
- F. Design your own \$1,000 bill. Look through newspapers advertisements. List what you would buy with the money.
- G. Cut out your favorite cartoon characters and paste them on a sheet of paper. Think of what they would like to eat. Write a statement coming from each one's mouth talking about the character's favorite food. Add humor if you'd like.
- D. Make a recipe that you found in the newspaper and share with your class.
- E. Lots of specific locations are listed in the paper. Read an article that takes place in a certain location. Then write a list of things you might be able to do in that city, state, or country.
- F. Make a crossword puzzle using graph paper and words you find on the front page of the newspaper. Make the answer key by cutting words out and gluing them in the proper places.
- G. For further fun, check out kids.cfaitc.org.

