

Arizona Grown Specialty Crop Lesson Plan

What to do with Malus-domestica, Cultivated Apples?



LEVEL: Grades 7-9

SUBJECTS: Language Arts, Technology, and Workplace Skills

AZ ACADEMIC STANDARDS: 3T-F1, 3T-F2, 3T-F3, 4T-F2, 5T-F1, 6T-F1, IWP-E1, IWP-E3, IWP-E6, IWP-E7, 3WP-E1, W-E1, W-E5, W-E6, W-E7, W-E8

MATERIALS

Purchase enough Arizona grown apples so each student can taste test at least 3 varieties.

Students will need access to computers that are connected to the Internet. (1 per student or group of students)

VOCABULARY

Use the handout, Vocabulary Categorizing, to show students knowledge of apple terminology.

This can be used as a pretest or an activity after lesson #1.

RELATED LESSONS

Apple: Kinds to Products
A is For Apple
Apple: Seed to Tree
Apple: Bare to Pick

SUPPORTING INFORMATION

Use resource sheet to get students started gathering information. Print one for each computer for quick reference.

Apple is one of the most important fruits that grow on trees. It is also one of the most popular of all fruits. Since prehistoric times, people have enjoyed the delicious flavor of apples.

There are hundreds of varieties of apples. Their

color ranges from various shades of red to green and yellow, and their flavor varies from tart to sweet.

Apple trees belong to the rose family. Their beautiful white flowers open in spring and look like tiny roses.

Apple growers throughout the world produce about 2 billion bushels of the fruit annually. China leads the world in apple production. The United States ranks second, followed by France, Italy, and Turkey.

In the United States, apple growing is an important industry in several regions, especially the Pacific Northwest. Washington produces more apples than any other state. The nation's apple crop totals about 260 million bushels each year, with a wholesale value of more than 1 1/4 billion dollars

In Canada, apples are the most important fruit crop. They are grown commercially in British Columbia, New Brunswick, Nova Scotia, Ontario, and Quebec. Canadian growers produce about 30 million bushels of apples yearly.

Over half the apples grown are eaten fresh. Apples also are baked into pies and many other dishes. Apples are used in making apple butter, apple juice,

BRIEF DESCRIPTION

This lesson introduces problem solving in a real life situation. Students will create a newsletter and oral presentation from an apple farmer's point of view. They will create a marketing strategy, sales promotion, and prototype, recipe or art idea to sell apples in a market when apple supply outweighs apple demand.

OBJECTIVES

1. Students will become proficient in AZ apple varieties and vocabulary associated with them.
2. Students will utilize technology-based research tools to locate and collect information.
3. Students will construct technology-enhanced models, prepare publications and produce other creative works.

ESTIMATED TEACHING TIME

1.5 weeks to 2 weeks

SUPPORTING INFORMATION (cont'd)

applesauce, and jelly and wine. Apple juice may be made into vinegar. Most apple products are canned or bottled, and others are dried or frozen.

Apples consist of about 85 percent water. They contain vitamins A and C, potassium, pectin, and fiber.

Through the ages, apples have appeared in legends, poems, and religious books. In the Swiss legend of William Tell, a tyrant arrests an archer but promises to free him if he shoots an apple off his son's head. Tell does so and later kills the tyrant with another arrow.

GETTING STARTED

1. Cut a small piece of apple for each student from different varieties of apples.
2. The instructor/teacher should make available copies of the following handouts:
Handout #1
Vocabulary Categorizing
Core of the Problem
6-Point Grading Scale
"Arizona Agriculture, Something You Should Know About"
"Conference Committee approves \$75 million in apple grower assistance"
"Asked to reconsider apple imports"
Resource List

PROCEDURES

Lesson one: (1-2 days)
Use Vocabulary Categorizing with a handout to provide students knowledge of apple terminology. This can be used as a pretest or an activity after lesson #1.

Students should read:
[Arizona Agriculture, Something You Should Know About](http://agriculture.state.az.us/Speeches/1april00.htm)
<http://agriculture.state.az.us/Speeches/1april00.htm>

Discuss the importance of agriculture in the state of Arizona.

Teacher prepares a variety of AZ grown apples cut into pieces for each student to taste and evaluate (see handout #1). This lesson will help students learn about apple varieties and their tastes.

Lesson two: (5-7 days)

Students will pretend they are an apple farmer in Arizona. Read together or paraphrase for students, "Conference Committee Approves \$75 Million in Apple Grower Assistance" and/or "Asked to reconsider apple imports".

Tell students because of apple imports into this country their family farm is having difficulty. They need to find new ways to sell or market their apples to make them more desirable to the public. All growers in this class will devise a marketing strategy, a sales promotion, prototype, recipe, or art idea to sell apples in a market when apple supply out weighs apple demand.

The instructor will need to handout and review assignment sheet (Core of the Problem) and grading scale.

Students should do an Apple in Arizona web search to find information to form the newsletter. See work cited page for additional sites.

The teacher should review with the students how to utilize information acquired from several sources and transfer information learned in one situation to another. The instructor should walk the room visiting with each student and helping students with computer or writing problems. Group students with needs together, for

example review header and footer with a group or clip art with another group.

Gifted students could give a cost breakdown of the cost incurred to market this product.

Lesson three: (1-2 days)
Presentation/Grading

Students will do an oral presentation and/or make a prototype using the newsletter as a guide.

The teacher will review with the students how to deliver a speech clearly, with expression and in an organized fashion, making eye contact with the audience, and convey the message through non-verbal communications. The teacher will also review with the students how to speak in a content area, using vocabulary of the subject accurately; locate and interpret information in documents such as manuals, graphs and schedules.

If you pick the presentation option your presentation should be from 3 to 5 minutes. Your voice should project to the back of the room. No yelling. Please use visual aids, costumes, jokes or food. Print handouts of your newsletter for each table. Make your presentation interesting. Try using humor.

See the assignment sheet, Core of the Problem, for criteria for the presentation. Use the grade scale for grading each presentation. You may want to tape the presentation and let the student assist in grading.

If you pick the prototype option you must make detailed sketches or models of a product, assemble and

present the product. Have your product available for a class display.

EVALUATION OPTIONS

1. Use the "6 Point Scale" rubric to grade the students.

RESOURCES

<http://agriculture.state.az.us/Speeches/1april00.htm>,

Arizona Agriculture,
Something You Should Know
About

http://www.usapples.org/newroom/nr_138millassist.html

"U.S. Apple Release October 2000: Congress Approves \$138 million in Assistance"
World Book Multimedia Encyclopedia 1999 World Book, Inc. 525 W. Monroe, Chicago, Il. 60661

Additional Student/Teacher Website Locations

<http://www.aztourist.com/articles/bounty.html>

<http://www.applejournal.com/az01.html>

<http://user.safeaccess.com/ol sen/njfkapples.html>

http://www.usapples.org/newroom/nr_138millassist.html

www.usapple.org

EDUCATORS' NOTES

CURRICULUM DESIGN

Tammy Demien Art/Life Skills Teacher Heritage Middle School Chino Valley School District

This Arizona Grown Specialty Crop Lesson Plan was paid for by a grant from the Arizona Department of Agriculture's Office of Marketing and Outreach.

Key

Vocabulary Categorizing

Types of Apple

Winesap
Malus Domestica
Golden Delicious
Granny Smith
Fuji
Pink Lady
Jonathan
McIntosh

Apple Tree Parts

Core
Trunk
Sapling
Suckers
Peel
Graft
Bud
Blossom
Cross-pollination

Terms used to describe writing and speaking

Paraphrase
Prototype
Criterion
Verbal communication
Non-verbal communication

Contamination

Concerns
Rodents
Microbes
Hygiene
Sanitation
Septic Tanks
Livestock
Fecal Coliform
Decaying Fruit
Salmonella
Escherichia Coli

Proper handling and preserving techniques and terms

FDA
Pasteurized
Ultraviolet treatment
Dried
Cider Press
Hygiene
Sanitation

Recipes/ Products

Applets
Apple Butter
Cider
Apfelfannkuchen
Carmel Apples
Vinegar
Waldorf Salad

Not About Apples

Chowder
Mocha
Apricots
Stromboli

Apple Pests

Apple Maggot
Codling Moth

Health Benefits

Antioxidants
Fiber
Lower cholesterol
Vitamin C

Marketing/ Money words

Supply and Demand

Prototype
Economy
Advertising

Core of the Problem



What's In It for YOU?

In this assignment you will create a computer-generated newsletter. This newsletter is for the purpose of selling apples. The apple/apples you pick must be a variety that was presented in lesson one, apple taste testing.

This newsletter will do the following:

1. Give a location of your fake farm
2. State the type/ types of apple grown and their uses
3. Paraphrase a current event related to apples or article related to apples
4. Copy an apple recipe
5. Hit us with a new promotion or idea to sell apples

You will need to use the Internet to search for information.

You will need to demonstrate correct grammar and punctuation.

You will need to take information from one source and transfer to your newsletter.

You will need to use apple terminology whenever possible.

The due date for this assignment is _____

The Presentation

On _____, you will do an oral presentation from your newsletter or present a prototype of a new apple product.

1. You will give a coherent speech with an introduction, body and conclusion.
2. You will communicate using verbal and non-verbal forms of communication.
3. You will use printed and non-printed materials to convey the message.
4. You will use vocabulary on the subject accurately.
5. You will use a variety of formats to support your presentation
6. You must use this presentation to SELL APPLES.

If you select the prototype option you must make a detailed sketch or have a model/sample of the product available to view.

Evaluation/Grading



See attached grading scale!

GRADING – 6 POINT SCALE

Content 6 1. Clear, focused, Compelling- hold readers attention 2. In-depth understanding of the topic 3. Takes reader on a journey of understanding 4. Satisfying details	Conventions 6 1. Only the pickiest editors will spot errors 2. Convention applied to bring out meaning 3. Enticing layout 4. Ready to publish	Presentation 6 1. Gives a coherent speech with introduction, body, and conclusion 2. Uses verbal & non-verbal forms of communication 3. Uses subject vocabulary accurately 4. Completes purpose
5 1. Clear, focused, 2. Strong main idea, thesis, or story line 3. Authentic, convincing, based on research 4. Well supported details	5 1. Minor errors 2. Pleasing layout 3. Basics (e.g., period, cap's, simple spelling) are O.K. 4. Ready to publish with a few touch-ups	5 1. Gives a coherent speech with introduction, body, and conclusion with minor errors 2. Uses verbal & non-verbal forms of communication 3. Uses subject vocabulary 4. Completes purpose
4 1. Clear, focused, more often than not 2. Identifiable idea, thesis, or story line 3. Quality detail outweighs generalities	4 1. Readable 2. Basics (e.g., period, cap's, simple spelling) are O.K. 3. Acceptable layout 4. Needs some work before publication	4 1. Gives a coherent speech with introduction, body, and conclusion with errors 2. Uses verbal & non-verbal forms of communication 3. Uses subject vocabulary 4. Completes purpose
3 1. Clear, focused moments, rambling text 2. Identifiable idea, thesis, or story line 3. Generalities outweighs quality detail	3 1. Noticeable errors that may affect meaning 2. Numerous errors on basics 3. Careful editing required	3 1. Meaning is unclear 2. Uses subject vocabulary limitedly 3. Completes purpose
2 1. A hint of a thesis 2. Fuzzy, confusing, loosely focused 3. Tidbits wander in search of a main idea	2 1. Serious errors making reading impossible 2. Errors obscure meaning 3. Line- by-line editing required	2 1. Gives a speech with noticeable, distracting errors 2. Purpose of the speech is unclear
1 1. Notes only 2. Reader can only guess 3. Unknown main idea	1 1. Serious errors making reading impossible 2. Errors obscure meaning 3. Word-by-word editing required	1 1. Gives a speech with serious errors 2. Purpose of the speech is unclear



Arizona Agriculture, Something you Should Know About
April 11, 2000
Tempe Rotary Club

Good afternoon, thanks for inviting me to talk about Arizona agriculture ... something we at the Arizona Department of Agriculture believe is "Something you Should Know About."

Arizona agriculture is something I have tried to know a great deal about. I grew up in this state, fourth generation cattle ranching family, and I believe it is important to share the message that Arizona has a viable, internationally competitive, agriculture industry that is diverse and cutting edge.

Believe it or not, many people are surprised to learn that Arizona has any agriculture beyond cotton and cattle. Well, we certainly do and I plan on telling you about three things today:

1. Arizona agriculture's role in the state's economy
2. The Arizona Department of Agriculture's role as regulator and promoter
3. What I believe the future holds for Arizona agriculture

Arizona agriculture is diverse.

- From apples to wheat and artichokes to ratites, Arizona agriculture supports hundreds of crops and livestock varieties.
- Arizona has 7,900 farms and ranches, and ranks 1st nationally in farm size at 3,582 acres.
- Arizona's five leading commodity cash crops: cattle, cotton, dairy, head lettuce and cantaloupes.

Something to consider ... Citrus remains a viable industry in Arizona although it no longer ranks as one of the top five cash crops. However, Arizona still ranks second nationally in the production of lemons, third in oranges and tangerines and fourth in grapefruit.

Another example of Arizona agriculture's diversity:

- Arizona is one of the leading producers of rose bushes and poinsettias.
- From November to April, (Thanksgiving to Easter) Arizona is the nation's salad bowl.

Beyond diversity, Arizona agriculture is innovative.

If you want to find cutting edge science, agriculture is the place to go.

- For example, laser-leveling fields, sub surface-drip irrigation systems and composting are ways agriculture grows more with less water.
- Greenhouse agriculture thrives on AZ's most abundant resource -- the sun. In Wilcox, Snowflake and soon in Chino Valley production of excellent vine ripened tomatoes happens year round.
- Arizona's fresh vegetable industries continue to develop new varieties to meet changing consumer demands. We're changing the way of thinking about agriculture here. It's much more consumer driven than ever before. In Yuma, they're not producing lettuce anymore...they're producing fresh cut salads...and instead of cattle production...we're producing steaks and hamburgers. This is an important distinction that is even evident with the marketing of milk with the black and white individual milk containers, competing as a beverage not just as a breakfast food.

New Markets For You

The innovations in agriculture are leading to new crops for Arizona.

- Shrimp farms are growing near Gila Bend. Desert Sweet Shrimp is sold locally and served by local chefs.
- Ratite ranching is raising interest although small and challenging.
- Hothouse tomatoes grow more with less.
- Various Chilies, artichokes and pumpkins in Maricopa County all are new crops for Arizona growers.
- The nursery industry is growing and supplying you and I with another line on our "honey do" lists.

Arizona Agriculture and the Economy

Economically, agriculture in Arizona remains a positive force on the state's economy, especially in some of our more rural counties and regions.

In 1993, Arizona Agriculture contributed more than \$6.3 billion to the state economy. Today, that number is estimated at nearly \$10 billion—rivaling tourism.

Arizona's net farm income continues to grow, in 1997 to nearly \$610 million.

Total 1997 commodity cash receipts: \$2.2 billion

AG by County

Arizona's two main Ag-producing counties are Maricopa and Yuma.

Maricopa County remains Arizona's top cash-producing county at \$772 million, mostly on the strength of its livestock industries, which earned \$366 million in 1997.

Yuma County continues to gain ground with \$567 million in cash receipts in 1997, more than \$496 million from crops.

What role does the Arizona Department of Agriculture Play?

I believe the Department of Agriculture plays a key role in this thriving industry.

Established by the Arizona State Legislature as a Cabinet-level state agency in 1990; opened for business Jan. 1, 1991.

Approximately 325 employees, with a \$20 million annual budget

ADA's Mission Statement: "To regulate and support Arizona agriculture in a manner that encourages farming, ranching and agribusiness while protecting consumers and natural resources."

Currently, we are reorganizing the department in an effort to provide customer service and be more efficient. Changes in agriculture need to be mirrored by changes in the Department. We hope to trim staff in some areas, and shift more people to our ports of entry for pest detection and to our meat and egg processing plants for better food quality control, just to name a few. Bottom line, we want to make our agency more accessible to the public, provide faster service, and do our jobs better.

So what do we do?

Just a few of the highlights are:

- Plant & animal disease detection and eradication

Example: Your golf courses are free from the awful Red Imported Fire Ant due to our hard work at our borders. Red Imported Fire Ants will cost California \$45 Million dollars last year. The California legislature has appropriated \$45 Million dollars (\$9mm/yr for 5 yrs) to conduct survey and infestation migration efforts for RIFA.

- Milk, dairy & egg inspections

Example: Our State inspectors make sure your meat, egg and dairy products are quality products and free from deadly bacteria. We do this from the fields to the slaughter and production houses.

- Fresh fruit & vegetable inspections

Your fresh fruit and vegetables are inspected to ensure they meet minimum standards of sugar content and don't contain pests.

- Pesticide use and worker safety regulation enforcement

Example: We train pesticide applicators to adhere to state and federal standards for applying fertilizers and pesticides to fields for the safety of citizens and the worker's safety.

- Native plant, native artifact protection

Protecting our state's vast desert resources is important if we want to preserve our landscape and heritage.

- Commodity development & promotion

We work with grocery store chains, the media, and community groups to encourage the public to buy Arizona Grown meats, fruits and vegetables first.

So where will agriculture go from here?

A good question that many people are trying to answer. Here are just a few of my thoughts:

- Efficiencies will continue. Today, only 2% of population produces the agricultural resources for other the 98%. I'll be working to draft the 2002 Farm Bill through my local and national professional organizations to formulate a national farm policy that supports Arizona's changing agricultural future.
- International market development will continue to be key. In January, a group of Chinese dignitaries toured Arizona as a part of a four-state tour in the U.S. They were seeing if our citrus met their standards for import. We passed the test with flying colors, and we should see our first shipment of Arizona citrus go to China by mid-April. Since Governor Jane Dee Hull first took office, this has been one of her top priorities and we're seeing it to fruition. She met with the Chinese while they were here to show them our sincerity. Trade with the most populous nation has a \$41 Million dollar per year impact, just for the citrus industry alone. Future trade will also include beef and wheat.
- Development of in-state processing for Arizona Grown commodities

There's a shift from production of bulk commodities, such as wheat, to production of pasta and from 1 and 2 pound bags of carrots to snack packs with dressing and or celery with peanut butter. Value added production is a must for Arizona.

- Urbanization's effects on Agriculture

Arizona agriculture isn't disappearing to the onslaught of tile roofs and newcomers, instead, farmers are being more productive with less land and more restrictions.

So where will agriculture go from here?

- More niche operations and organic farming will develop to meet consumer demand. (Value added in the field in the way of Ag biotech.)
- Water and land, as key inputs, will continue to be the drivers of economic development for agriculture
- Food safety, from the field to the table, will drive agricultural technologies and commodity handling practices. As we learn more about microbials (germs), consumers are demanding a safe and quality food source.
- Biotechnology increasingly will be used to combat pests and diseases. Biotechnology has gotten a bad rap. Biotechs will also touch each and every one of you potentially. Scientists are able to select desired traits in the genes of our fruits and vegetables. By doing so, they are able to solve world hunger, fight diseases,

and improve health. For example, a leading biotech company has just released rice enriched with vitamin A that is slated to be shipped to nations (Asia) where poverty and malnutrition lead to blindness. Neurasuticals will soon be available through the foods we eat; already patients with leukemia and diabetes are being treated through bio-engineered foods. One day, you'll be able to eat an apple and throw out all of those supplements you swallowed this morning. "Thy food is thy medicine, thy medicine is thy food." Hippocrates

The future of Agriculture is exciting

In closing, agriculture is a viable segment of Arizona's fast-paced economy.

Although challenges exist, the long-term outlook for agriculture remains positive.

The Arizona Department of Agriculture will continue to regulate and support this state's ag industries for consumers like you.

Thanks for inviting me to speak to you today. Agriculture remains an exciting industry for me to talk about and share with you. If there are any questions, I'm very happy to answer those now.

[meet the director home](#)

THE PRODUCE NEWS

NATIONAL NEWSWEEKLY OF THE FRESH PRODUCE INDUSTRY SINCE 1897

Vol. 104, No. 47



November 19, 2001

Conference committee approves \$75 million in apple grower assistance

The joint House-Senate agricultural appropriations conference committee agreed to a compromise agriculture-spending bill for fiscal 2002 that provides \$75 million in market loss assistance for apple growers, reducing by half the \$150 million previously approved by the House.

"America's financially parched apple growers are in desperate need of a full glass of debt-quenching assistance from Congress, having spent the last five years crawling on their hands and knees through an economic wasteland," said U.S. Apple Association President and CEO Craig R. Naasz, whose group spearheaded efforts to secure the apple

Agreement halves House-approved \$150 million

assistance funds. "While no one will refuse this much-needed aid, it's somewhat discouraging to be handed only half of the assistance previously promised to our nation's apple growers."

The House of Representatives approved its version of the agriculture spending bill (H.R. 2830) on July 11, which included \$150 million in emergency market loss assistance for apple growers. The Senate's version of this legislation (S. 1191), which was adopted Oct. 25, did not

include assistance for apple growers.

Although Senate Agriculture Appropriations Committee Chairman Herbert H. Kohl (D-WI) pledged to fight for inclusion of the apple market loss assistance measure in conference

with the House, the conference committee split the difference between the House and Senate versions in approving \$75 million in apple grower assistance.

"America's apple growers have suffered devastating losses over the past five years, including an estimat-

ed \$500 million during the last year alone," said Mr. Naasz. "While this assistance will help some struggling apple growers make ends meet, it falls short of the amount of assistance needed to shield still others from financial ruin."

The agriculture appropriations conference agreement provides a total of \$16 billion in discretionary spending for fiscal 2002, compared to total discretionary and emergency spending of \$18.7 billion in the fiscal 2001 agricultural appropriations act. The conference report must still be approved by both the full House of Representatives and the Senate, be-

fore it can be presented to President Bush to be signed into law.

Reps. Maurice Hinchey (D-NY), George Nethercutt (R-WA), John Sweeney (R-NY) and James Walsh (R-NY) of the House Appropriations Committee, along with Reps. Doc Hastings (R-WA) and Tom Reynolds (R-NY), sponsored the \$150 million apple assistance measure in the House.

Sens. Carl Levin (D-MI), Susan Collins (R-ME), Paty Murray (D-WA), Olympia Snowe (R-ME), Maria Cantwell (D-WA), Hillary Clinton (D-NY), James Jeffords (I-VT), Edward Kennedy (D-MA), John Kerry (D-MA), Patrick Leahy (D-VT), Charles Schumer (D-NY), Gordon Smith (R-OR) and Debbie Stabenow (D-MI) offered, then withdrew, a similar amendment during the Senate's consideration of its agriculture appropriations bill, following Sen. Kohl's commitment to fight for the apple assistance measure in conference.

Apple growers have suffered losses of \$1.5 billion over the past five years, according to USDA statistics. Unfairly priced imports of apple juice concentrate, excessive regulatory costs, food retail consolidation, and subsidized foreign competition are among the major factors contributing to the worst economic conditions confronting apple growers in the past 70 years.

THE PACKER

USDA asked to reconsider apple imports

The agency's plan would relax rules on South Korean fuji apples coming to the U.S.

By LARRY WATERFIELD
Washington, D.C., Editor

WASHINGTON, D.C. — Thirty-seven members of the House of Representatives and 21 senators have asked the U.S. Department of Agriculture to withdraw its plan to allow easier entry of fuji apples from South Korea.

In letters to Agriculture Secretary Ann Veneman, the lawmakers claimed the USDA proposal would threaten U.S. apple growers with the possible importation of apple pests.

"The proposed rule would provide an international competitor with phytosanitary concessions that endanger U.S. apple

CONCERNS

U.S. apple growers say easing restriction on the importation of South Korean apples could lead to:

- the importation of pests detrimental to the U.S. apple crop.
- the worsening of already poor economic conditions.
- the importation of Chinese apples funneled through South Korea.

growers and exacerbate an already uneven playing field faced by U.S. apple exports in Korea," the letters stated.

The lawmakers complained that the proposed rule would allow greater market access for Korean apples without

The lawmakers complained the USDA proposed rule would allow greater market access for Korean apples without granting U.S. apple growers similar access to the Korean market. Korea maintains a phytosanitary ban on U.S. apples despite years of negotiations. U.S. apples also face a 46% import duty if the ban is lifted. Korean apples enter the U.S. duty-free.

granting U.S. apple growers similar access to the Korean market.

Korea maintains a phytosanitary ban on U.S. apples despite years of negotiations. U.S. apples also face a 46% import duty if the ban is lifted.

Korean apples enter the U.S. duty-free.

Kraig Naasz, president of the U.S. Apple Association, McLean, Va., said increased imports of fuji apples would only worsen the already poor economic conditions of U.S. growers.

Naasz said a number of parties have voiced concern that there is nothing to stop Korean firms from importing Chinese apples and re-exporting them to the U.S. under Korean labels.

China is the world's largest apple producer.

The USDA has received 323 public comments critical of its import proposal.