

Arizona's Most AWESOME Classroom

Arizona State Fair Educational Curriculum

Complete Lesson Plans for Arizona State Fair Interactive Exhibits:

- Arizona State Fair Farm Tour Learning about Farms and Livestock Production
- Arizona Agriculture Display From Farm to Table: Arizona's Farming
 Industry

Lesson plans are aligned to Arizona State Standards for Grades K-3: Language Arts | Social Studies | Science | Math | Music



www.azstatefair.com

Memories Make Learning MORE Meaningful!



Welcome Educator!

We are excited and thrilled you chose to participate in the Arizona State Fair Field Trip Program! We encourage you to take advantage of Arizona's MOST REMARKABLE hands-on classroom and enjoy livestock on display, museum quality exhibits and interactive tours with your students. As the State Fair educational exhibits are comprehensive and multi-faceted, there is much to see and much to do in exploring cross-curricular learning opportunities available in Language Arts, Science, Math, Fine Arts, Agriculture, CTE and STEM.

Included in this packet is a curriculum guide designed by and for the Arizona State Fair. The core educational exhibits that comprise the most significant aspect of the Field Trip experience include:

Arizona State Fair Farm Tour Arizona Agriculture Display - From Farm to Table

This self-guided exhibit features interactive components to make content more relevant in order to enhance student learning. A few examples of the interactive components include:

Arizona State Fair Farm Tour: "Touch and Feel" Fiber Display, Modern Milking Techniques Video (presented by AZ Milk Producers), "Real Life" Farmers to Answer Questions, Live Farm Animals

The lesson plans included in the curriculum are intended to not only provide teachers a guide for utilizing the Arizona State Fair as an interactive classroom, but also to provide alternative pre- and post-Fair activities that may be selectively chosen to develop more meaningful and effective lessons for students. Units included in the curriculum have been created specifically for each of the exhibits and incorporate:

Arizona State Standards (cross-curricular alignment) Vocabulary List for Pre-K, K-1, and 2-3 Teacher and Student-Friendly Objectives Materials List (including handouts, worksheets, etc.) Pre- and Post-Fair Activities and Worksheets Links for Supplemental Videos Topics for Current Events Recommended Reading List

If you have questions, please contact the Arizona State Fair at 602-252-6771.

Thank you for allowing your students to share in Arizona's Most Remarkable Classroom! Be sure to add on an afternoon of Fair rides, food and fun for the complete Arizona State Fair experience!

The Arizona State Fair

Arizona State Fair Educational Curriculum Created by Kiah Washington

Reading List

Arizona State Fair Farm Tour/Kerr's Farm Tours

Barnyard Banter – Denise Fleming Moo, Baa, La La La! – Sandra Bounton Big Red Barn – Margaret Wise Brown Click, Clack, Moo: Cows That Type – Doreen Cronin The Grumpy Morning – Pamela Duncan Edwards Punk Farm – Jarrett Krosoczka

Arizona Agriculture - From Farm to Table

And the Good Brown Earth – Kathy Henderson Before We Eat: From Farm to Table – Mary Azarian To Market, To Market – Nikki McClure How Did that Get in My Lunchbox? – Chris Butterworth From Wheat to Bread – Kristin Thoennes Keller



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Arizona State Fair Farm Tour Learning about Farms and Livestock Production



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Title of the Lesson: Arizona State Fair Farm Tour

Subject Area: Agriculture - Animal Science

Grade Level: Pre-K to 3rd

AZ Academic Standards:

Language Arts:

- K.SL.1, K.SL.2, K.SL.5, K.L.2, K.RF.1, K.W.2, K.L.1, K.L.4
- □ 1.SL.3, 1.SL.4, 1.SL.5, 1.SL.6, 1.L.1, 1.L.2, 1.L.5
- 2.SL.1, 2.SL.2, 2.SL.3, 2.L.1, 2.L.3
- 3.SL.1, 3.SL.2, 3.SL.3, 3.SL.4, 3.SL.6, 3.L.1, AZ.3.L.1, 3.L.3

Social Studies:

- *Kindergarten* Strand 1: Concept 1: PO 2., PO 3., PO 4., Strand 2 Concept 1: PO 2., PO 3., PO 4., Strand 2: Concept 2: PO 2., Strand 4: Concept 3: Science Strand 4
 Concept 3, Strand 4: Concept 5: PO 1., Strand 4: Concept 4: PO 1., PO 2., PO 3., Strand 5: Economics: Concept 1: PO 1., PO 2., PO 3.
- *First grade* Strand 1: American History, Concept 1: PO 2., Strand 2: World History Concept 1 PO 3., Strand 4: Geography, Concept 3: Physical Systems Science Strand 4 Concept 3, Strand 4: Geography, Concept 4: Human Systems PO 1., PO 2., PO3., Strand4: Geography, Concept 5 PO 1., Strand 2: World History, Concept 9: PO 1.
- Second Grade: Strand 1: American History, Concept 1: PO 4., Strand 2: World History, Concept 1: PO 4., Strand 2: World History, Concept 9: PO 1., Strand 4: Geography: Concept 3: PO 1., PO 3. Strand 4: Geography, Concept 5: PO 1., Strand 4: Geography, Concept 3: PO 1., PO .3
- *Third grade* Strand 1: American History, Concept 1: PO 3., Strand 1: American History, Concept 10: PO 1., Strand 2: World History, Concept 1: PO 2., PO 3., Strand 4: Geography, Concept 5: PO 1., PO 2., Strand 4: Geography, Concept 3: Science Strand 4 Concept 3, Strand 4: Geography, Concept 4: PO 6., Strand 4: Geography, Concept 5: PO 1., PO 2., Strand 5: Economics, Concept 1: PO 1., PO 3., PO 4., PO 5., PO 6.

Math:

- Kindergarten K.0A.A.2
- 1st grade 1.OA.B.3, 1,OA.C.6
- 2nd grade 2.OA.B.2, 2.NBT.B.5

Vocabulary:

Pre-K	Kindergarten and 1 st Grade	2 nd and 3 rd Grade
 Farm Farmer Barn Cow Goat Pig Chicken Milk Tractor Sheep Chick Calf Kid (baby goat) 	 Tractor Cattle Dairy Down (fiber) Wool Cotton Plow Farmer Calf Kid (baby goat) Goat Pig Cow Calf Chick 	 Livestock Cattle Trough Swine Domestic Agriculture Wool Fertile Poultry Pasteurize Swine Wool Produce (as in fruits and vegetables)
	 Mineral (salt lick) 	 Mineral (salt lick) Gestation Down (fiber)

Objective: SWBAT identify various types of animals that live on farms and explain how people use these animals as resources to produce food and fiber.

- Identify what a dairy farm is and what dairy farmers do
- Identify what a farm is and what farmers do
- Name animals typically found on a farm (not just dairy)
- Discuss different resources that come from farms and how those resources are used.
- Name at least two machines that are involved in the farming process (e.g., milking machine and tractor)

<u>Student-Friendly Objective:</u> "I know the difference between the types of farms, can name different animals that live on the farms, and can explain how food makes it from farms into our homes."

1. **Description**: Featuring Kerr's Farm Tours, this particular exhibit focuses on various farm animals and how people use products from animals. This exhibit is a hands-on and interactive self-guided exhibit as there will be live animals on display. Students will learn about farm equipment, livestock including milk cows, what kinds of food the animals eat, and what products we use or consume that come from animals on the farm. The Arizona State Fair will be providing related activities and interactives for students based upon grade level.

2. Materials and Resources:

- Crayons
- Colored Pencils
- Markers
- Worksheets
- Handouts
- "Kerr's Farm Tours" https://www.youtube.com/watch?v=QuqY2-7MNwo (2:44)
- "The Farm to Table Story" https://arizonamilk.org/local-dairy/farm-to-table/
- Arizona Milk From Farm to Table
 <u>https://www.youtube.com/watch?v=bFRxWV-NVyQ</u> (9:32)
- Cow Comfort on Arizona Dairy Farms <u>https://www.youtube.com/watch?v=RRH0gi7BN5o</u> (2:24)

3. Motivation/Anticipatory Set/Pre-Assessment (before the fair):

- Have your students fill in a KWL Chart:
 - a. You might ask and discuss with your students before they participate in the exhibit:
 - 1.Does anyone know where milk comes from?
 - 2. We buy milk from the grocery store, but how do grocery stores get milk for consumers?
 - 3. What types of animals do you think live on a dairy farm?
 - 4. What other types of animals might live on a farm?
 - 5.Can anyone give examples of things we eat or use that come from animals on a farm?
- Sight Words Worksheet
 - a. Review the different animals with the younger children and have them practice writing their sight words.

Dairy Counting Worksheet

4. Guided Practice:

a. Students will participate in the exhibit at the Arizona State Fair.

5. Check for Understanding (after the Fair):

- Have your students complete the KWL Chart: You might ask and discuss with your students after they participate in the exhibit:
 - 1. What is a dairy farm?
 - 2. Name at least two agricultural resources that people consume or use daily that come from the farm?
 - 3. What would happen if there weren't any farms?
 - 4. Name at least two machines used in the farming process.
 - 5. Has technology influenced farming? If yes, how?
 - 6. Describe how milk and other foods go from the farm to our homes.
- My Favorite Dairy Food (writing prompt) Worksheet
- Farm Animals Coloring Page
- *If I were a Farmer* Worksheet
- Color by Number Math Worksheet

6. Topics for Current Events:

- How natural disasters affect American farmers (i.e., wild fires, drought, flood).
- The use of technology (e.g., drones, GPS) in helping American farmers to operate more efficiently. (Precision Agriculture) https://www.youtube.com/watch?v=581Kx8wzTMc
- The impact that Colony Collapse Disorder and the loss of honey bees have on crop production.
- https://www.sciencedaily.com/news/plants_animals/agriculture_and_food/ (*This site contains several articles over a variety of agriculturally related topics)
- http://www.livescience.com/topics/agriculture/2 *This site contains several articles over a variety of agriculturally related topics)
- The Five C's of Arizona (cattle, citrus, cotton, copper and climate)



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Arizona Agriculture Display From Farm to Table - Arizona's Farming Industry



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Title of the Lesson: Arizona Agriculture - From Farm to Table

Subject Area: Health Education, Science and Agriculture

Grade Level: Pre-K to 3rd

National Science Education Standards (K-4):

- Content Standard A, Science as Inquiry
- Content Standard C, Life Science

AZ Academic Standards:

Language Arts:

- K.SL.1, K.SL.2, K.SL.5, K.L.2, K.RF.1, K.W.2, K.L.1, K.L.4
- 1.SL.3, 1.SL.4, 1.SL.5, 1.SL.6, 1.L.1, 1.L.2, 1.L.5
- 2.SL.1, 2.SL.2, 2.SL.3, 2.L.1, 2.L.3
- 3.SL.1, 3.SL.2, 3.SL.3, 3.SL.4, 3.SL.6, 3.L.1, AZ.3.L.1, 3.L.3

Social Studies:

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- *First grade* Strand 1: American History, Concept 1: PO 2., Strand 2: World History Concept 1 PO 3., Strand 4: Geography, Concept 3: Physical Systems Science Strand 4 Concept 3, Strand 4: Geography, Concept 4: Human Systems PO 1., PO 2., PO 3., Strand 4: Geography, Concept 5 PO 1., Strand 2: World History, Concept 9: PO 1.
- Second Grade:Strand 1: American History, Concept 1: PO 4.,Strand 2: World History, Concept 1: PO 4., Strand 2: World History, Concept 9: PO 1., Strand 4: Geography: Concept 3: PO 1., PO 3. Strand 4: Geography, Concept 5: PO 1.
- *Third grade* –Strand 1: American History, Concept 1: PO 3., Strand 1: American History, Concept 10: PO 1., Strand 2: World History, Concept 1: PO 2., PO 3., Strand 4: Geography, Concept 5: PO 1., PO 2., Strand 4: Geography, Concept 3:

Science Strand 4 Concept 3, Strand 4: Geography, Concept 4: PO 6., Strand 4:

Geography, Concept 5: PO 1., Strand 5: Economics, Concept 1: PO 3., PO 4., PO 5.

Math:

- Kindergarten K.0A.A.2
- 1st grade 1.OA.B.3, 1,OA.C.6
- 2nd grade 2.OA.B.2, 2.NBT.B.5

<u>Vocabulary:</u>

Pre-K	Kindergarten and 1 st Grade	2 nd and 3rd Grade
• Farm	Farm	Domestic
• Farmer	• Farmer	 Agriculture
 Barn 	 Plow 	Cultivate
Fruit	Crop	 Trough
 Vegetables 	• Pest(s)	 Livestock
 Tractor 	• Bale	 Produce (as in fruits
• Hen	Cattle	and veggies)
• Cow	Tractor	Pesticide
Chick	 Dairy 	Furrow
• Calf	• Ripe	• Cattle
 Seeds 	Chick	Combine (machinery)
	• Calf	Poultry
	 Sow (seeds) 	 Bale
	 Harvest 	 Sow (seeds)
		Cultivate
		 Harvest
		Fertilize

Objective: SWBAT identify foods that come from a farm and understand at what time of the year that food is grown, and how that food is transported in order for people to get food as measured by observation and discussion 80% of the time.

- Identify what a farm is and what farmers do
- Define a scientist and understand the role of science in food production
- Identify growing seasons for different fruits and vegetables
- Discover the positive and negative effects of food processing
- Understand food transportation

Student-Friendly Objective: "I know what foods come from a farm, what foods grow in what seasons, and how food gets from a farm to people's homes (tables)."

- Description: The "Arizona Agriculture Display" is an exhibit that introduces children to farming and agriculture in Arizona. The exhibit targets multiple age-groups. Younger children (Pre-K) will be provided with coloring worksheets that include sight words of different farm foods and animals. Students in grades Kindergarten and 1st will receive activities that may include *Color by Number* worksheets (addition & subtraction), comprehension questions, and small writing prompts. Second and Third graders will also receive activities that include *Color by Number*, comprehension questions, small writing prompts, word searches, and fill in the blank.
- 2. Materials and Resources:
 - Crayons
 - Colored Pencils
 - Markers
 - *The Story of Miguel's Tomatoes*(and related items)
 - Handouts (this includes the flyers representing the seasonal crops in AZ which are provided)<u>http://fillyourplate.org/produce-season.html</u>
 - "Celebrate Arizona Sweet Corn"
 <u>https://www.voutube.com/watch?v=gwXarMbvZck</u> (2:19)

 - "Yuma Arizona Lettuce Farm" <u>https://www.youtube.com/watch?v=KTcKy_6TKk0 (4:56)</u>

3. Motivation/Mental Anticipatory Set/Pre-assessment (*before the fair*):

You might ask and discuss with your students before they participate in the exhibit.

Have your students complete a KWL chart related to the topic.

- 1. Who knows what a farmer is? What does a farmer do?
- 2. What kinds of animals live on farms?
- 3. Does anyone know where and how we get the food that we eat? Where does food come from?
- 4. Does anyone know what crops are?
- What types of crops have you seen growing in Arizona? (Students may have seen cotton, citrus groves or corn fields.) Show students pictures of edible crops that grow in Arizona throughout the year.
- 6. What is a scientist? What is a food scientist?
- Make a prediction about what you think a scientist's role is when it comes to food.
- Discuss technology that lends itself to farming (machines and equipment like tractors).
- 4. The Story of Miguel's Tomatoes (full lesson description attached)
- 5. Guided Practice/Demonstration/Provision of Input and Information:
 - Students will participate in the exhibit at the Arizona State Fair.

Check for Understanding (*after* the fair):

You might ask and discuss with your students after they participate in the exhibit.

- Have the students complete their KWL Charts
 - 1. What is the most commonly grown and sold crop in Arizona in the spring?
 - 2. Where does our food come from and give a brief summary of how it gets from the farm to the table.
 - 3. What would happen if there weren't any farms?
 - 4. Do different crops grow in different places?
 - 5. Discuss the different crops grown in Arizona.

6. What technology is used in farming and harvesting? (Tractors,

Cultivators, etc.).

7. Discuss factors that affect growing seasons for different crops.

- Dairy Products Sight Words Worksheet
- *Growing Crops* Worksheet
- *Farm to Table* Activity Sheet
- The Story of Miguel's Tomatoes Agribusiness Lesson (full lesson description attached)
- Color by Number Math Worksheet
- 6. Topics for Current Events (these sites contain several articles over a variety of agriculturally related topics):
 - https://attra.ncat.org/urban-agriculture/ (urban farming)
 - https://www.sciencedaily.com/news/plants_animals/agriculture_and_food/
 - https://www.livescience.com/topics/agriculture
 - https://www.nal.usda.gov/afsic/sustainable-agriculture-0 (sustainable agriculture)

The Story of Miguel's Tomatoes

Distribute copies of the picture titled, "*Steps in the Food System*." Have students focus on the illustration. Ask orientation questions like these:

- What do you see in the picture?
- What is going on? Who are these people?
- What are the different men doing?
- What kinds of things do you think are being grown?
- What is the man doing on the field at the bottom of the picture? (Encourage students to elaborate on their responses.)

When finished, take time to read over the handout "*Steps in the Food Industry Process*" and elaborate on the five steps involved in our food system – which begins with the food producer's efforts to grow crops or take care of animals, and ends with the final preparation of the store-bought fruits, vegetables, grains, dairy, or meat products we prepare and consume at home.

During the discussion about the list, have students brainstorm and come up with some examples of the kinds of people, activities, weather conditions, and machines that might be involved in and affect each phase of the farm-to-table process. This will help to elicit student ideas/misconceptions about how food is grown and how it gets to their homes. Questions may include:

- Is weather important to farmers? Why or why not?
- Besides farmers, what other kinds of workers help to bring food to our homes?
- How does food usually get to factories or supermarkets?

Next, read *The Story of Miguel's Tomatoes*, with the class. The purpose of this story is to illustrate the five food-system steps that Miguel's tomatoes undergo from the farm to people's homes. Also pass out copies of the student worksheet, "*Steps in the Food Industry Process from The Story of Miguel's Tomatoes*." Read over the directions to help students understand that they will be required to draw scenes from Miguel's story that are part of the five steps of the food system.

Begin the story by carefully reading over the first section of the story, *The Tomatoes Grow in the Fields*, because it describes how tomatoes are grown. This section is also important because it covers the first two steps of the food system that they will be required to illustrate on their student sheets. After reading the first section, ask discussion questions like the ones below to gauge student comprehension.

Section 1: The Tomatoes Grow in the Fields

- What did Miguel have to do to prepare his fields before planting? (Step 1)
- What kinds of things do plants need to grow well?(Step1)
- How did Miguel know when to pick the tomatoes?(Step2)
- How did Miguel and his wife pick, store, and transport the tomatoes? (Step 3)

After the discussion, provide guidance as students draw scenes from the story on their student sheets that depict Steps1-3.

After covering the first section and completing their illustrations for Steps 1-3, read over the last four sections of Miguel's story with students, taking breaks in between to address discussion questions like the ones below. Students should complete the illustrations for Steps 4-7 on their own.

Section 2: The Tomatoes Go to the Village Market

- What did Miguel do with the tomatoes at the village market? (Step 4)
- What did Pedro do with the tomatoes? How did he transport them? (Step4)

Section 3: The Tomatoes Go to the Big City

- Where in the city did Pedro transport the boxes of tomatoes? (Step 5)
- Why were the tomatoes stored in a cool, dark room at the supermarket? (Step5)

Section 4: The Tomatoes Go to the Food Processing Factory

- What happened to the tomatoes at the food processing factory? (Step 6)
- What was the job of the sorters at the factory? (Step 6)

Section 5: The Tomatoes Go Home

- What happened to the tomatoes after they were canned? (Step 7)
- Would Miguel and Ana ever buy canned tomatoes at a store? (Step 7)
- What kinds of meals does your family make with canned tomatoes? (Step 7)

When finished, have students present their illustrations to the class and explain how their pictures depict the steps Miguel's tomatoes took from the farm to people's tables.

*Students may be put into groups of five and each student in the group assigned one of the steps in the food industry process to draw.