



Timeline to Century Farms – Middle Grades

Purpose

To introduce students to generations on the Farm. Students will interactively construct a timeline of crop commodities, farm equipment, and generations on the farm focusing on ties to specific changes made over the years to learn the importance of resources required to work and live on a farm.

Subject Area(s)

English Language Arts and Social Studies

Common Core/Essential Standards

ELA

- **CCSS.ELA-Literacy RI.6-8.7** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (eg. In a flowchart, diagram, model, graph, or table)
- **CCSS.ELA-Reading RH.6-8.7** Integrate visual information (eg. In charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

Social Studies

- **6.H.1** Use historical thinking to understand the emergence, expansion and decline of civilizations, societies and regions over time.
 - **6.H.1.1 Construct charts, graphs and historical narratives to explain particular events or issues over time.**
- **6.H.2** Understand the political, economic and/or social significance of historical events, issues, individuals and cultural groups.
 - **6.H.2.3 Explain how innovation and/or technology transformed civilizations, societies, and regions over time (e.g. agricultural technology)**
- **7.H.1** Use historical thinking to analyze various modern societies.
 - **7.H.1.1 Construct charts, graphs, and historical narratives to explain particular events or issues over time.**
- **8.H.1** Apply historical thinking to understand the creation and development of North Carolina and the United States.
 - **8.H.1.1 Construct charts, graphs, and historical narratives to explain particular events or issues.**

Agricultural Literacy Outcomes

Agriculture and the Environment

- Explain and discuss why people migrate and change environments to meet their basic needs

Plants and Animals for Food, Fiber & Energy

- Explain how farmers work with the lifecycle of plants and animals (planting/breeding) to harvest a crop.

Food, Health, and Lifestyle

- Recognize that agriculture provides our most basic necessities: food, fiber, energy, and shelter.

Science, Technology, Engineering, and Math

- Compare and contrast historical and current food processing and systems
- Discuss how technology has changed over time to help farmers/ranchers provide more food to more people
- Explain how and why agricultural innovation influenced modern economic systems
- Provide examples of science and technology used in agricultural systems

Culture, Society, Economy & Geography

- Trace the sources of agricultural products (plant or animal) used daily.
- Identify plants and animals grown or raised locally that are used for food, clothing, shelter, and landscapes.

Essential Questions

1. What does the term *generations* mean?
2. Why is farming important?
3. Explain the changes that have occurred over a century on a farm?
4. How has farm equipment evolved over time?

Vocabulary

Farm: a piece of land used for growing crops or raising animals.

Family farm: according to the USDA, a family farm is “any farm organized as a sole proprietorship, partnership or family corporation.”

Sustainability: able to be used without being completely used or destroyed, involving methods that do not completely use up or destroy natural resources, or able to last or continue for a long time.

Generation: all people living at about the same time.

Timeline: a graphic representation of the passage of time as a line.

Student Motivator

Watch Farmland videoclip. Students will explore farm size in the U.S. This is a video clip from the documentary, *FARMLAND*. Interactive discussion about Farms now and Farms long ago.

Background Knowledge

Background - Agricultural Connections

According to the American Farm Bureau Federation, about 97% of U.S. farms are family owned and operated. Farms are becoming larger to accommodate more family member involvement and to remain profitable and competitive. The costs of farming continue to increase and so fewer people are able to go into farming. At the same time, farming practices are becoming more efficient, allowing farms to grow in size. This equates to more labor being mechanized and less need for manual labor on farms. The U.S. maintains one of the safest food supplies in the world, and Americans spend the smallest percentage of their disposable income on food. Much of this can be attributed to new technologies in agriculture and very efficient farming operations.

With a population expected to reach 9 billion by 2050 and fewer farmers than ever before, providing nutritious food for a growing world is a challenge. In 1982, there were 2.48 million farms in the United States. In 2012, there were 2.11 million farms. A farmer in 1960 fed 25 people, and a farmer today feeds 155. Most farms are larger than ever, though most are still family owned. Family owned farms have been known to incorporate their business as a management strategy to better protect themselves. These larger family farm businesses can purchase larger machinery that work more efficiently, such as larger planters, mechanical harvesters and safe and effective crop protectants. They are able to maximize the production per acre, allow a single farm family to farm more acres, and protect the safety and yield of crops.

Did you know? (Ag Facts)

- 97% of farms in the U.S. are owned by families.¹
- The average U.S. farmer feeds 155 people today. In 1960, a farmer only fed 25.²
- In 2014, North Carolina farms produced \$13,123,200,000.00 in cash receipts.³

Materials

- [Farmland video clip](#)
- *Century Farm* by Chris Peterson (book)
- *White board/chart paper/expo markers*
- *White construction paper*
- *ruler*
- *Tape*
- *Crayons/markers*
- *Ipads*

- Magazines

Procedures

Activity 1

1. Divide whiteboard into 2 sections: Farms Today and Farms Long Ago
2. Begin by having students discuss their initial ideas of a farm today and keep track of responses on white board for all students to see. Then ask students if they believe farming was different say a hundred years ago and keep track of responses on white board for all students to see.
 - a. Topic ideas: farm equipment, way crops were produced, size of farm, types of people on the farm, etc.
3. Tell the students that they will be learning about family farms. Show students the Farmland video clip (see essential resources). Be sure to point out the size of the farms and the importance of sustainability for our farms today.
4. Introduce the book *Century Farms* by Chris Peterson. This books takes a look at one hundred years on a family farm.
5. After reading the book have students go back to the whiteboard, ask if there is anything they would change or add to the white board. Ask students if the video clip gave them a more up to date idea of farm size in today's world.
6. Once students have completed the introduction discussion activity, explain to the students that they will be learning about generations on the farm creating projects demonstrating how different aspects of the farm have grown and changed through the use of a timeline.

Activity 2

1. Begin by passing around a cup with individual pieces of paper with a number written on them (1,2,3,4) As the students pick their number this signifies the group they will be in. Have students get into assigned groups.
2. Groups could be family generations on the farm, evolution of farm equipment, technology on the farm, and changes in farms across a century.
3. Show students an example timeline *The History of Agriculture* found in essential resources.
4. Students will begin by researching their topics on I pads, specifically looking for interesting facts of changes on the farms over generations (taking note to key dates of changes).
5. Provide students with materials: individual sheets of white construction paper, tape, markers, magazines, pictures, ruler, etc.
6. Students will work collaboratively to create a timeline of facts, images, and notes connected to their topic following guidelines for a timeline, accurate to year of production and changes made.
7. Students will hang projects in the classroom to use a visual aide as a guide to final upcoming project.

Activity 3

1. Discuss with students the importance of the family farm. Share with students some key facts associated with farms today.

Key Facts:

- Many farms in the United States only grow a few crops. A typical Midwestern farmer only grows corn and soybeans, maybe some alfalfa for hay, and possibly hogs or chickens. Most farms today are not as diversified as they used to be.
 - Many acres can be managed by just a few people because of the machinery now used in agriculture. Combines, tractors, milking machines, and other technologically advanced machinery allow farmers to work more efficiently.
 - The average farmer today feeds 155 people.
 - Food from many farms are sold to companies that further process or package the food items. Some items, like milk, are typically sold locally, while other products, like corn, are shipped all over the world to be used in food and for ethanol fuel.
 - Farms today are extremely efficient. Farmers know the best spacing between plants in their fields to maximize the land they have and how to care for their animals with welfare and productivity in mind.
2. As a completion to this activity allow students to share their projects and explain the impact of the family farm.

Extension Activities

1. As an extension activity explain to students they will utilize the same researching techniques as they did with their groups to create a Who Am I project – this project can be done for an individual, family, generations, etc. – it will focus on the unique facts connected to the student or their families, where their family originated – if students are not able to find historical information about their families they can create a unique poster showing their name, birthday and at least four things that describe the student or family appropriate on a timeline.
2. Provide students with extra materials as needed or encourage students to think outside of the box and create a timeline using digital media, other project materials, etc.
3. Allow students time to brainstorm their ideas in class and create a planning sheet. Students should be given at least a week to complete this project.

Essential Links

- FARMLAND (Multimedia)
[<http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=314>]
- The History of Agriculture
<http://www.seametrics.com/blog/the-history-of-farming-infographic/>
- Discovering FARMLAND (website)
[<http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=483>]

Extension Activities

- Plan a trip to a family farm
- Ask a local farmer that is at least a third or fourth generation farmer to come talk with the class about a local garden center, nursery, arboretum or greenhouse.

Sources & Credits

- <http://www.seametrics.com/blog/the-history-of-farming-infographic/>
- <http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=483>
- <http://www.agclassroom.org/teacher/matrix/resources.cfm?rid=314>
- http://www.agclassroom.org/teacher/matrix/lessonplan.cfm?lpid=396&search_term_lp=FARMLAND

Ag Facts

1. <http://www.usda.gov/wps/portal/usda/usdamediafb?contentid=2015/03/0066.xml&printable=true>
2. <http://www.farmersfeedus.org/fun-farm-facts/>
3. <http://www.ncagr.gov/>