JUST A MATTER OF TIME

GRADE LEVEL: 4-5 **SUBJECT:** Historical Understanding

NATIONAL STANDARD(S): **THEME:** Agriculture Development
(3-5) H.Und: 1.2-5

FOOD AND FIBER STANDARD: I-A, III-E

LEARNER OBJECTIVE:
Students will recognize the dynamic changes in themselves and in agriculture that have occurred through the years.

VOCABULARY:
cotton gin—A machine used to separate the cotton seed from the lint
Homestead Act—An act that enabled an individual in the U. S. to aquire a unit of public land, usually not more than 160 acres.
hybrid—A plant resulting from a cross between parents that are genetically unlike.
migrate—A person, plant or animal moves from its natural location
subsistence farming—Farming in which the majority of the output is used by the farm family.
thresher—Equipment used to separate grains from the plant, as in removing oat grains from its straw

BACKGROUND:
Agriculture has been an integral part of human history. Around 8000 BC, primitive people began growing food as well as gathering it. This enabled them to live together in one place. Before, they moved wherever the game migrated and picked edible plants as they went.

The plow was invented in a Middle Eastern country around 3000 BC. The first plow was probably a Y-shaped branch pulled by an ox. When settlers first came to the New World in the 1600s, the only farm tools they had were these Y-shaped plows. Native Americans showed them how to make a hoe with a large stick and the bone of an animal.

Inventions gradually made agricultural work easier. The cotton gin was invented in 1793 by Eli Whitney to separate the seeds from the cotton bolls. For the first time in agricultural history, a machine replaced the work of many people.

Grain had been harvested for thousands of years by hand with scythes and sickles, but Cyrus McCormick's invention of the reaper in 1834 was the first horse-drawn grain harvester. Another machine, called a thresher, then came to the fields to separate the grain from the chaff. Today, these two steps are combined in a machine called the combine.

The steel plow was developed in 1836 by John Deere to make breaking and turning the soil easier. This invention was lighter in weight to pull through the fields, and soil didn't cling to the steel as it did to the wood and iron plows. Through early 1880s, other machines powered by horses were invented, such as the grain drill, mower, and cultivator.

When the Civil War started, new technology was adopted quickly because of the labor shortage and strong demand for farm products. In 1862 President Abraham Lincoln signed the Homestead Act, which enabled Americans to establish homes and settle in the West.

In the late 1800s and 1900s, technology made rapid advances in agriculture. Production increased dramatically as hybrid corn was developed. By crossbreeding, corn plants grew

faster and produced more kernels per ear. Other developments improved crops and livestock in the areas of insect and disease resistance. With these advancements providing surpluses, prices for food stayed low until World War I.

By the 1930s, most farmers owned tractors to pull equipment, but the Dust Bowl wiped out many Great Plains producers. During the years of drought, many farmers moved west to find jobs.

World War II led to the complete change-over from animal to mechanical power on farms and ranches because of a shortage of farm workers and incentives to produce food. After the war, technology helped production skyrocket. Fertilizers, improved seed and feed, new breeds of livestock, and pesticides were just a few of the revolutionary additions.

Until 1900, most producers were subsistence farmers, growing just enough to feed their families with a little left to trade. In the 1800s, one farmer could feed five people. Today agricultural producers keep their records and make feeding, planting, and marketing decisions with computers. Farms are larger than ever but still require less labor thanks to modern technology and machinery. Now farmers usually specialize by producing one or two crops or one type of livestock. Today, one farmer can produce enough to feed nearly 100 people. Fewer families live on farms and are needed to feed the world, so people are free to pursue other careers.

American agriculture has come a long way. Science and technology continue to make advancements to provide consumers with higher quality, less expensive food.

STEP BY STEP INSTRUCTIONS:

1. Hand out Activity Sheet A. Show students a picture of a baby or ask students to think of their little brothers or sisters or themselves in kindergarten or first grade. Ask how they have changed since then. Have students write their answers on the activity sheet under the appropriate headings. Emphasize the enormous amount of change that occurs in only a few years.
2. Discuss with students that everything changes. Guide students to think about changes they know about within their community, state or in the U.S. and the world that have occurred within the last 50 to 100 years.
3. Relate the notion of change to agriculture. Explain that they have seen how a baby changes a great deal in 9 to 10 years. Think how much American agriculture has changed in almost 200 years.
4. Share the background material with students. Ask students to complete Activity Sheet B, listing changes under the proper headings.

RELATED ACTIVITIES

1. Have students search the Living History Museum websites listed to identify tasks and chores that they still do today. They can identify how those tasks were performed differently in past years
2. Students can create a timeline using the data from the activity sheets
3. Have students research current newspaper and magazine articles to predict changes which may occur within the next 5, 10, 20 or 50 years.

RESOURCES

Student Books

Anderson, J. & Acona, G. (1989). The American Family Farm. Harcourt, Brace, Jovanovich.
Collins, D. R. (1990). Pioneer Plowmaker: A Story About John Deere. Carolrhoda.
Enright, E. (1987). Thimble Summer. Dell.
Freedman, R. (1983). Children of the Wild West. Houghton Miflin.
Freedman, R. (1985). Cowboys of the Wild West. Houghton Miflin.
Giff, P. (1987). Laura Ingalls Wilder: Growing Up in the Little House. Viking.
Greer, G. & Ruddick, B. (1988). Max and Me and the Wild West. Harcourt, Brace, Jovanovich.
Johnson, T. (1992). The Cowboy and the Black-Eyed Pea. Putnam.

Teacher Resources

Webb, Dave, and Phillip R. Buntin, *Adventures With the Santa Fe Trail,* Kansas Heritage Center, 1000 Second Ave., PO Box 1207, Dodge City, KS 67801-1207, 316-227-1616, FAX 316-227-1695 (76-page activity book which includes information and teaching suggestions, Stock No. 182, $7.95, plus $1.50 for shipping and handling).

Related Internet Websites

North Carolina Agriculture History: Perspective of how agricultural production changed in America from the Revolutionary War to the present. *http://www.agr.state.nc.us /stats/history/history.htm*

America the Bountiful: (video series) Tells the intertwining tale of agriculture and history in the New World, taking the viewer on an entertaining walk through every chapter of the American story. *http://www.fdn.calpoly.edu/VEP/history.html*

Old Cowtown Museum: A unique, 17 acre open-air living history museum which recreates Wichita and Sedgwick County, Kansas from 1865 to 1880. *http://www.old-cowtown.org/*

Links to WWW homepages of Living History, Agricultural, and Open-Air Museums. The website links listed are divided geographically. *http://www.mystic.org/~alhfam/alhfam.links.html*

EVALUATION:

Were students able to logically and successfully complete the activity sheets?

ACKNOWLEDGMENT

This lesson adapted from Wisconsin Ag in the Classroom, Wisconsin Farm Bureau, 1212 Deming Way, Madison, WI 53717-1754.

Name_____ Activity Sheet A

Just a Matter of Time

BABY → FOURTH GRADER

CHANGES IN HOW I LOOK

CHANGES IN WHAT I CAN DO

CHANGES IN HOW PEOPLE TREAT ME

Food & Fiber Literacy
Department of Agricultural Education, Communications and 4-H Youth Development
Oklahoma State University, Stillwater, OK

Name_____ Activity Sheet B

Just a Matter of Time

CHANGES IN AGRICULTURE

CHANGES IN MACHINERY

CHANGES IN METHODS

CHANGES IN PRODUCTS

Food & Fiber Literacy
Department of Agricultural Education, Communications and 4-H Youth Development
Oklahoma State University, Stillwater, OK

CHANGES IN MACHINERY

Possible answers

- Use tractors instead of horses
- Use milking machines
- Use a combine to harvest wheat
- Use a truck to take products to market

CHANGES IN METHODS

Possible Answers

- Contour plowing
- Use fertilizers
- Keep animals inside
- Give animals medicine and vitamins
- Give animals better feed
- Use better seeds

CHANGES IN PRODUCTS

Possible Answers

- Canned and frozen foods
- Products available yearround
- "Lowfat" products
- Boneless chicken
- High protein grains
- Ethanol fuel for vehicles
- Organic foods