Tools of Time

Wyoming Social Studies, Language Arts, & Science

Objectives:

- The students will become familiar with farm equipment and will recognize how equipment has changed over time.
- The students will create drawings representing their predictions for future farm equipment.
- Students will learn about the differences in farming techniques in Mali, and the United States.

Background:

In the 1700s, farmers had only a few hand tools to help them. For the heavy work, farmers relied on animals to help them. In the 1700s and 1800s, many new inventions came about, helping the farmer to be more productive. Improvements have continued to be made. Today, a smaller percentage of Americans are farmers, and yet they are able to feed a larger number of people than ever before.

The plow is an important piece of machinery. The plow digs up the soil, allowing water and air to enter, preparing the soil for seeds. The first plow was made of cast iron with additional parts made from wood. The plow was hitched to horses and steered by the farmer. This invention was improved by using steel in the place of cast iron, to prevent the soil from sticking to the plow. Today, plows are attached to the tractor driven by the farmer. Where a farmer could once plow approximately 2-3 acres a day using a horse and plow, today's farmer can plow 80-100 acres a day using a tractor and plow.

The tractor is a versatile and important piece of machinery. The tractor took the place of the horse and with attachments, is used to plow, plant, cultivate, and pull heavy loads. One tractor today equals the same power of 200 horses.

In the 1700s, seeds were spread by hand. This technique was replaced first by the seed drill, and today by the planter. The planter is attached to the tractor and places the right amount of seeds in the ground and then covers them with soil -- all in one machine!

A sickle was a very important tool used to harvest grains. Today's harvesting is done with a combine. This machine allows one person to do the job of many people as it cuts, separates, and stores grain all at once.

Standards

Social Studies

Time Continuity & Change: 4.2, 4.3

People, Places, & Environments: 5.1, 5.2, 5.3, 5.4

Language Arts

Speaking & Listening: 3.1, 3.2, 3.3., 3.5,

Science:

History & Nature of Science In Personal & Social Decisions: 3.1A, 3.1B, 3.2A

Materials

- "From Old to New" worksheet, one for each student
- Drawing paper
- Pencils

Estimated Time

60 Minutes

Grades 1-3

notes:

Today's dairy farmers have milking machines to do the job that was once done by hand. By hand, the job took two people and about two and one-half hours to milk 20 cows. Today with the milking machine, one farmer can milk 20 cows in 15 minutes.

Farming Techniques in Mali:

In Mali, farmers use hand tools, such as the sickle and hand hoes. Some may also use draft animals with implements created by blacksmiths. In many ways, Mali's farming techniques are similar to those practiced in the United States before the 1700s Agricultural Revolution. Mali's equipment has not evolved as much as it has in the United States in part because of the culture, the limited raw resources, and the lack of information and training.

Activity Procedures:

1. As a class, review the "From Old to New" worksheet. Ask the class what these items may have in common or what they may be used for. After determining that they are all ways that people farm, discuss the order in which each was used. Have the students complete the instructions on the worksheet. Briefly discuss how the tools used in agriculture have changed over time, allowing farmers to produce more food.
2. Watch the video or chosen segments of both videos, or read a book about farm machinery. Discuss the different types of machinery displayed and the evolution of equipment through time.
3. Ask the students to hypothesize about the farming techniques used in Mali. Ask which of the tools used in Step 1 would be used in Mali. Discuss farming techniques used in Africa. Compare them with those used in America throughout time.
4. Ask the students to hypothesize about how modern farming equipment may continue to evolve. Discuss some of the tasks and challenges farmers face and how enhanced equipment may assist them. Pass out drawing paper and allow each student or groups of students to come up with a drawing of a new invention or machine for agriculture. Allow the students to share their new ideas with the class.

Additional Activities

- Take your class on a field trip to a local farm implement dealer. Tour the lot and have the dealer explain what the equipment is called and what it does.

- Check with your local FFA chapter to find out if they would be able to make a presentation to your class or host your class for a field trip of a local implement dealer as in the above suggestion. Having FFA members as hosts would allow you to have a personal tour guide for each smaller group.

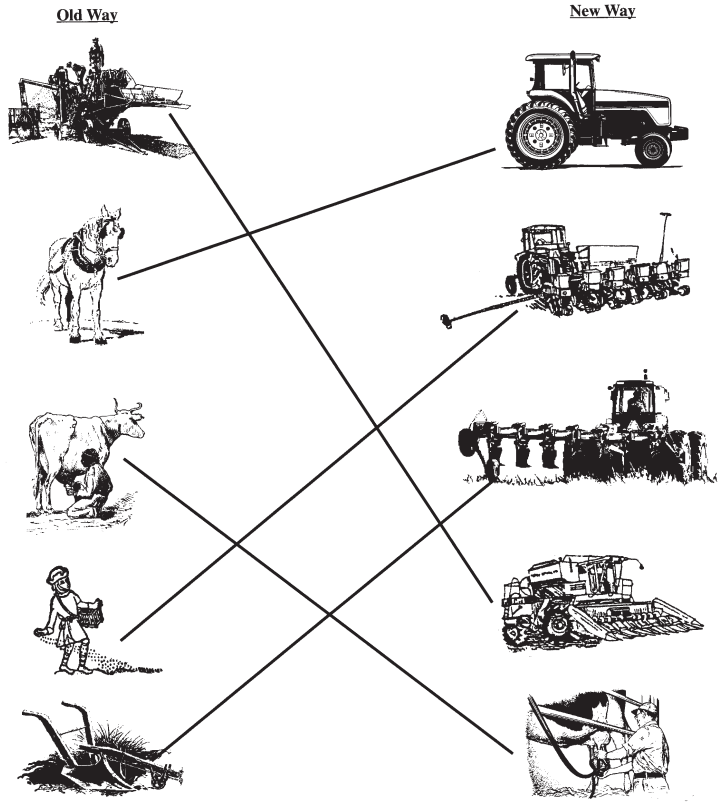
Questions for Investigation:

- What are other simple tools that may still be used by farmers today? (shovel, hoe, rake, trowel, wheelbarrow)
- Would a farmer in the U.S. use these simple tools for large projects?
- Would a farmer in Mali use these simple tools for large projects? Why?

Answer Key:

From Old to New

Technology has changed the way people farm. Draw a line to match up the old method to the new method used today.



Adapted from Illinois Ag in the Classroom

vocabulary:

- *tractor*
- *plow*
- *combine*
- *sickle*
- *soil*

Name: _____

From Old to New

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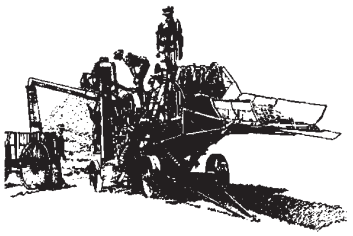
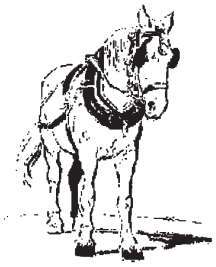
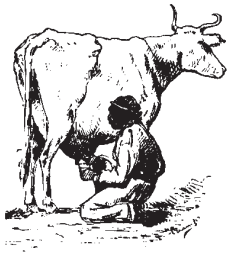
Old Way







New Way