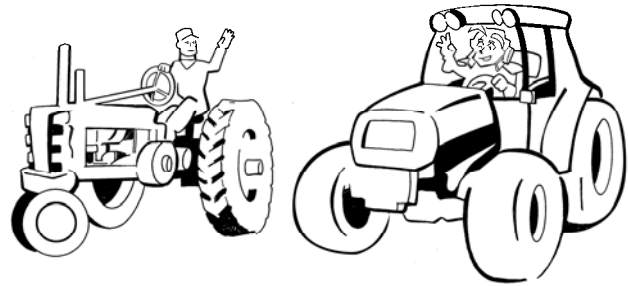


## NATIONAL SOCIAL SCIENCE STANDARDS

- Growth: Workers can improve their productivity by using physical capital such as tools and machinery.
- US History: Understand the history of the local community and how communities in North America varied long ago.



## OBJECTIVES

The student will:

1. identify the time line from the 1930's- 2000.
2. identify the advance in equipment used for farming.
3. compare and contrast the productivity of a farmer between then and now.

## BACKGROUND

Agriculture has been the world's largest industry for thousands of years. Even in the last 70 years, the lifespan of many of our grandparents, agriculture has changed dramatically.

Seventy years ago, farmers didn't have many machines to help them grow food, and nearly everything was done by hand. It required a lot of work by people to produce enough food to feed everyone. The basic tools of farming are continually being improved upon, resulting in more efficient use of labor.

In the 1900s, farmers used animal power to pull tools such as plows and seed drills. Engine powered tractors replaced animal power. The tractors of today pull loads that 100 horses could not pull. Plows developed from being able to plow one row at a time to multiple rows at a time.

A combine (kōm'bin) that harvests and separates the grain can clean 5 acres (one acre is the size of a football field) of wheat in one hour, a job that used to take 12 workers a whole day.

As farm machines sped up the process of planting and harvesting, fewer people were needed for farm work. Many farmers started branching out into industrial trades and crafts for the manufacture of consumer goods.

In 1930 it took the work of 1 farmer to feed 10 people. Today, 1 farmer feeds 130 people. In 1930 it took 15-20 hours of labor to produce 100 bushels of corn; today, 2.75 hours of labor produces the same amount.

## FAST FACTS

TODAY, TRACTORS PULL LOADS THAT 100 HORSES COULD NOT PULL.

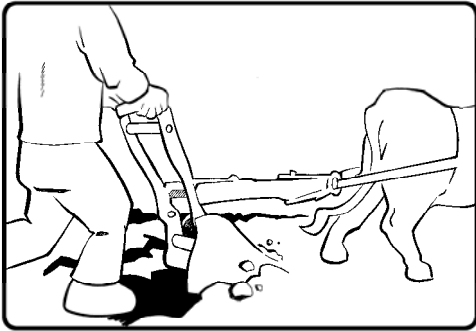
COMBINES HARVEST AND SEPARATE THE GRAIN.

A COMBINE CAN CLEAN 5 ACRES OF WHEAT IN 1 HOUR, A JOB THAT USED TO TAKE 12 WORKERS A WHOLE DAY.

IN 1930, 1 FARMER FED 10 PEOPLE; TODAY 1 FARMER FEEDS 130 PEOPLE.

## INSTRUCTIONAL PROCEDURE

1. Review background information.
2. Review the concept of a timeline.
3. Have the students complete the “Agriculture Than and Now” activities.



## ASSESSMENT

1. Give students copies of Activity 3, Agricultural Facts.
2. In a paragraph form, have the students compare and contrast farming then and now.

## WORD POWER

**combine** *n.* A harvesting machine that heads, threshes and cleans grain while moving over a field.

**plow** *n.* A tool used to cut, lift and turn over the soil.

**productivity** *n.* The amount of product that can be made by one man in a specific time period.

**timeline** *n.* A table listed important events for successive years within a particular time period.

**tractor** *n.* A four-wheeled vehicle used to pull farm equipment.

**technology** *n.* The practical use of science to make life better and easier for people.





# AGRICULTURE THEN & NOW (CONTINUED)

## AGRICULTURAL TIMELINE

Decade	Agricultural Changes	1 Farmer Feeds
Early 1800	Hand tools and plows	4
1870	Horse drawn steel plow, reaper, and threshing machine developed	5
1910	Engine powered tractor developed	
1920	Chemical revolution in all areas ▪ Pesticides developed	
1930	Rubber tire tractor developed	10
1940	Change from horse drawn equipment to tractor drawn begins	
1950	Tractors outnumber horses and mules ▪ Role of soil nutrients is recognized ▪ Crop rotation begins	16
1960	Self-propelled combine introduced ▪ Critical link of beneficial insects to the food chain discovered	26
1970	New fertilizers and Pesticides to feed and protect plants ▪ IPM concept developed	47
1980	Biotechnology field trials begin ▪ Softer pesticides-less harmful to beneficial insects and environment ▪ Low rate material 1 ounce/acre rather than 2 pounds	76
1990	Biotech corn, soybeans, and cotton are approved for sale ▪ Computers ▪ Global Positioning Satellites ▪ IPM utilized	133
2005	Advancements in biotechnology	144

## STATISTICAL AGRICULTURAL FACTS

Then (1930s)	Now (2000s)
55% of the population are farmers	2% of the population are farmers
1 acre produces 30 bushel of corn	1 acre produces 120 bushels of corn
1 farmer feeds 10 people	1 farmer feeds 130 people
15-20 hours of labor produces 100 bushels of corn	2.75 hours of labor produces 100 bushels of corn
Average life expectancy is 47 years	Average life expectancy is 76.1 years

NAME \_\_\_\_\_

## ACTIVITY 1: AGRICULTURE THEN (1930s) AND NOW (2000s)

### FACTS

In 1930, 55% (more than half) of the population was farmers.

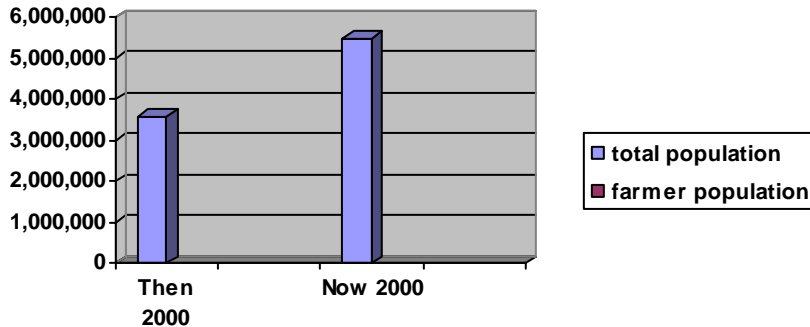
Convert 55% to fraction \_\_\_\_\_

In 2000, 2% of the population was farmers.

Convert 2% to fraction \_\_\_\_\_

### GRAPHING MISSOURI NUMBERS

The total population of then and now is already graphed. Place a red bar on the graph to indicate the **farmer population** for each year.



### THE MISSOURI CONNECTION

Year	Missouri Population (approximate)
1930	3,600,000 people
2000	5,500,000 people

Year	Percent of farmers in population	Total population in Missouri	Farmer Population in Missouri
1930	55%	3,600,000	1,980,000
2000	2%	5,500,000	110,000

### QUESTIONS

Circle the choice that correctly fills in each sentence.

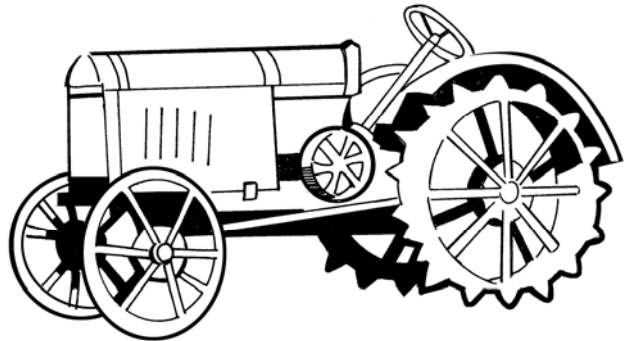
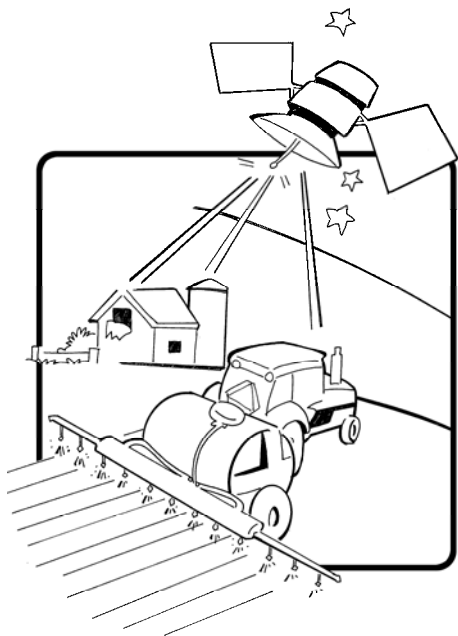
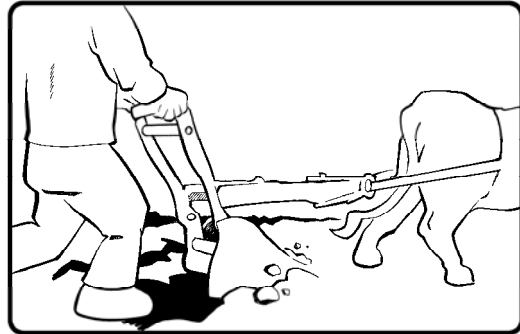
1. The population of Missouri has (increased/decreased) between 1930 and 2000.
2. The number of farmers in Missouri has (increased/decreased) between 1930 and 2000.

### DISCUSSION

In the past 70 years the number of farmers has decreased but the population has increased. What has changed to help the farmer meet the demand for food?

NAME \_\_\_\_\_

## ACTIVITY 2 — AGRICULTURE THEN (1930s) AND NOW (2000s)



NAME \_\_\_\_\_

## ACTIVITY 2 — AGRICULTURE THEN AND NOW

### TIMELINES

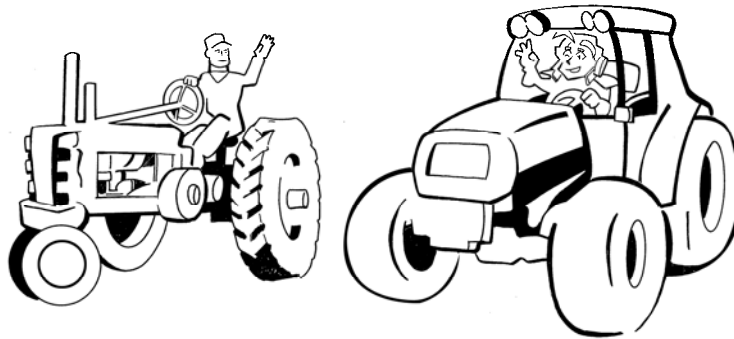
TIMELINE	AGRICULTURAL CHANGES	PASTE CORRECT PICTURE IN THE PROPER RANGE IN THIS COLUMN
1900 and before	<ul style="list-style-type: none"> <li>▪ Animal pulled plows and equipment</li> </ul>	
1910	<ul style="list-style-type: none"> <li>▪ Average farm size: 147 acres</li> <li>▪ Engine powered tractors introduced (metal wheels)</li> </ul>	
1930	<ul style="list-style-type: none"> <li>▪ Rubber tire tractor introduced</li> <li>▪ 1/3 farms have electricity</li> </ul>	
1940	<ul style="list-style-type: none"> <li>▪ Average farm size: 175 acres</li> <li>▪ Change from horse pulled equipment to tractor pulled equipment begins</li> </ul>	
1950	<ul style="list-style-type: none"> <li>▪ Average farm size: 216 acres</li> <li>▪ Rural Electrification: Most all farms have electricity</li> <li>▪ Number of tractors exceeds the number of horses and mules</li> </ul>	
1960	<ul style="list-style-type: none"> <li>▪ Self-propelled combines introduced</li> </ul>	
1970	<ul style="list-style-type: none"> <li>▪ Sugar beets and cotton harvested mechanically, no hand labor used</li> </ul>	
1980	<ul style="list-style-type: none"> <li>▪ Average farm Size 460 acres</li> <li>▪ Improved farming methods such as no-till and sustainable farming</li> </ul>	
1990/2000	<ul style="list-style-type: none"> <li>▪ Global Positioning Satellites</li> </ul>	

NAME \_\_\_\_\_

## ACTIVITY 3 — AGRICULTURE THEN AND NOW

### COMPARE—CONTRAST

In paragraph form, compare and contrast farming then and now.



#### THEN (1930s)

- 55% of the population are farmers
- 1 acre produces 30 bushels of corn
- 1 farmer feeds 10 people
- 15-20 hours of labor to produce 100 bushels of corn

#### NOW (2000s)

- 2% of the population are farmers
- 1 acre produces 120 bushels of corn
- 1 farmer feeds 144 people
- 2.75 hours of labor to produce 100 bushels of corn