

Extending the Knowledge

Objective

Students will read about land grant colleges and the Cooperative Extension system, develop time lines, identify key ideas and details and answer comprehension questions. Students will write short research papers about land grant colleges and important figures in the history of land grant colleges and the Cooperative Extension System

Background

In 18th and 19th Century America, agriculture was the nation's most important activity. Strengthening agriculture meant strengthening the nation. However, agricultural research and education were not part of the American system of higher education at that time. Only wealthy people could afford to go to college, which mostly prepared students to be ministers, doctors or lawyers. Education for 95 percent of all Americans ended after a few years of school.

In 1857, Vermont Congressman Justin Morrill introduced the "College Land Bill" to Congress. The bill was designed to make college available for a larger portion of the population. The bill was passed in 1861, and President Abraham Lincoln signed it in 1862. Under this law—the Morrill Act—a state could receive 30,000 acres of federal land for each of its congressmen. The state could then sell the land to fund at least one college that would teach agriculture and the mechanical arts. These colleges came to be known as "land grant colleges." Oklahoma A&M, which later became Oklahoma State University, was created under this act. Langston University, Oklahoma's second land grant university, was created under the Morrill Act of 1890, which provided continuing support for land-grant colleges but required that states practicing racial segregation could not receive funds unless they desegregated their colleges or provided separate colleges for African American students.

Eventually land-grant colleges began to look for ways to get the results of their research out to the people who needed it most, the farmers and ranchers. Colleges began arranging extension courses for farmers who were unable to go to the college campuses. Home economics departments followed this example and began to provide information to help women improve rural home life. Programs for young people were set up to demonstrate new methods which the young people could share with their families. This was the beginning of 4-H clubs.

In 1914 Congress passed the Smith-Lever Act, which gave land-grant colleges the money to establish an extension program in every state.

English Language Arts

1. Read and discuss background and vocabulary.
 - Divide students into groups, and assign each group to read one of the sections on the Reading Page included with this lesson.
 - Students will identify the main idea and supporting details of each section and answer the comprehension questions.

Oklahoma Academic Standards

GRADE 3

Speaking and Listening: R.1,2,3; W.1,2. Reading and Writing Process: R.1,3. Critical Reading and Writing: R.7; W.3. Research: R.1,2,3; W.1,2,3
Algebra: 2.1. Measurement: 2.5; 3.2
Citizenship Literacy: 2.
Economics: 3. Geography: 1A. Oklahoma History: 1, 10

GRADE 4

Speaking and Listening: R.1,2,3; W.1,2. Reading and Writing Process: R.1,3. Critical Reading and Writing: R.7; W.3. Research: R.1,2,3; W.1,2,3
Number & Operations: 1.5,7. Algebra: 2.2. Measurement: 2.4,5; 3.2
US Political and Physical Features: 2E, 5

GRADE 5

Speaking and Listening: R.1,2,3; W.1,2. Reading and Writing Process: R.1,3. Critical Reading and Writing: W.3. Research: R.1,2,3; W.1,2,3
Number & Operations: 1.4. Measurement: 3.4

Online Resources

Encyclopedia of Oklahoma History and Culture, [http://digital.library.okstate.edu/encyclopedia/](http://digital.library.okstate.edu/digital.library.okstate.edu/encyclopedia/)

Chronicles of Oklahoma, <http://digital.library.okstate.edu/Chronicles/index.html>

Oklahoma Cooperative Extension Service county online directory: <http://countyext2.okstate.edu/>

ARS Timeline (US Department of Agriculture Agricultural Research Service): <http://www.ars.usda.gov/is/timeline/chron.htm>

Growing a Nation: The Story of American Agriculture (National Agriculture in the Classroom resource): <http://www.agclassroom.org/gan/timeline/>

- Each group will present what they have learned to the class.
2. Students will research and report in writing on the origins of Oklahoma's two land grant universities (Oklahoma State University, formerly Oklahoma A&M, and Langston University, created under the 1890 act).
 3. Invite a representative of your county's OSU Cooperative Extension Service office to come to your class and answer students' questions. Students will prepare questions ahead of time and write reports based on the interview.
 4. Discuss the statement: "In 18th and 19th Century America, agriculture was the nation's most important activity. If agriculture was strong the nation was strong." What does that mean? Is the statement still true today? Why or why not? Students will discuss as a class and then write argumentative essays defending their opinions.
 5. Students will use online or library resources to research and list Native American land grant colleges. Students will research and list schools designated as sea grant colleges, urban grant colleges, space grant colleges and sun grant colleges.

Math/Geography

Early county Extension agents travelled by train, horse, horse and buggy or by foot to the farms where they provided advice and demonstrated the latest agricultural techniques. Students will pretend they are early county agriculture extension agents and calculate how long it would take to get from the county seat of your county to various locations within the county, travelling by foot.

1. Students will calculate how long it takes to walk a mile or some fraction of a mile by walking the distance and timing the walk. Students may also use a pedometer to determine the number of steps it takes to walk the distance.
2. Students will identify the county seat of your county.
3. Students will select a town in your county that is not the county seat.
4. Students will use a road map or online map tool to determine the distance between the county seat and the town selected.
5. Students will write a mathematical equation to determine how long it would take to walk from the county seat to the town you have selected? How many steps? Students will solve the equation.
6. Students will convert the distances from miles to meters.

Social Studies

1. Use an online search engine to find a list of all the land-grant colleges and universities in the US
 - Print off a copy, cut the list into strips and fold the strips. Place the strips in a football helmet, baseball cap or other container.
 - Each student will select one of the strips
 - Provide copies of the worksheet included with this lesson.
 - Students will research to find information about each of the land-grant colleges or universities.
 - Students will design large pennants and display their information on

them.

—Students will label the pennants on the worksheet, decorate them with the school colors of the schools they have researched and attach them to map pins.

—Students will place the pennants in the correct location on a large map of the US.

—Display all the large pennants next to the map of the US.

—Create a graph to place beside the map showing how many land grant universities have agriculture-related mascots and how many do not.

2. From the reading pages students will find the key dates in the history of land grant colleges, agricultural research and agriculture extension and place them in the correct place on the timeline included with this lesson.

—Students will use online or library resources to find at least five important events in the history of agriculture for each of the timeline pages. Online resources are listed in the sidebar on the previous page.

3. Students will each select one of the following notable figures in the history of land grant colleges and the Cooperative Extension Service and use online or library resources to research the person's life and career. Students will write short biographies of the figures they have selected: Henry G. Bennett, Justin Morrill, Seaman Knapp, WD Bentley, WM Bamburg, Emma A. Chandler, Booker T. Washington, Norma M. Brumbaugh, George Washington Carver

Extra Reading

Cross, Coy F. II, Justin Smith Morrill: Father of the Land-Grant Colleges, 1999.

Meltzer, Milton, and Stephen Alcorn, *Lincoln in His Own Words*, HMH Books for Young Readers, 2009.

Monroe, Judy, *George Washington Carver: Scientist and Inventor*, Capstone, 2005.

Nelson, Marilyn, *Carver: A Life in Poems*, Front Street, 2001.

Olson, Nathan, *George Washington Carver: Ingenious Inventor*, Capstone, 2006.

Weinstein, Robert A., and Barbara C. Greenfield, *The Kids' College Almanac (Kids' College Almanac: First Look at College)*, Jist Works, 2010.

Vocabulary

agriculture— the science or occupation of cultivating the soil, producing crops, and raising livestock

conservation— planned management of a natural resource to prevent exploitation, pollution, destruction, or neglect

demonstrate— to illustrate and explain especially with examples

drought tolerant— adapted to dry conditions

economics— of, relating to, or based on the production, distribution, and consumption of goods and services

extension— education by special programs at a distance from a school

hands-on experimentation— active participation in a procedure or operation carried out under controlled conditions in order to discover something, to test a hypothesis, or to serve as an example

mechanical arts— field of expertise related to engineering and the design and construction of machines

nutrition— the act or process of nourishing or being provided with food

poultry— domesticated birds kept for eggs or meat

racial segregation— the separation or isolation of a race, (as by separate schools)

research— careful study and investigation for the purpose of discovering and explaining new knowledge

rural— of or relating to the country, country people or life, or agriculture

sanitation— the act or process of keeping free from filth, infection or dangers to health

terrace— one of a group of horizontal ridges made in a hillside to conserve moisture and prevent loss of soil for agriculture

windbreak— something (as a growth of trees) that serves as a shelter from the wind

Land-Grant Colleges

In 18th and 19th Century America, agriculture was the nation's most important activity. If agriculture was strong the nation was strong. Agricultural research and education were not part of the American system of higher education at that time, however. College mostly prepared students to be ministers, doctors or lawyers, and only wealthy people could afford it. Education for 95 percent of all Americans ended after a few years of school.

In 1857, Vermont Congressman Justin Morrill introduced the "College Land Bill" to Congress. The purpose of the bill was to make college available for more people. The bill was passed in 1861, and President Abraham Lincoln signed it in 1862. Under this law—the Morrill Act—a state could receive 30,000 acres of federal land for each of its congressmen. The state could then sell the land to pay for building at least one college that would teach agriculture and mechanical arts. These colleges came to be known as "land grant colleges." Oklahoma A&M, which later became Oklahoma State University, was created under this act.

The second Morrill Act was approved in 1890. It required states practicing racial segregation to desegregate their land-grant colleges or provide separate colleges for African American students. Langston University became Oklahoma's second land grant college under this act.

Congress has created land-grant colleges for other purposes over the years— sea grant colleges (for aquatic research, awarded in 1966), urban grant colleges (for urban research, awarded in 1985), space grant colleges (for space research, awarded in 1988), Native American colleges in 1994 and sun grant colleges (for sustainable energy research, awarded in 2003).

QUESTIONS

1. What was the name of the bill that created land-grant colleges?
2. Why were they called "land-grant colleges?"
3. What was the purpose of the colleges?
4. What was the purpose of the second Morrill Act?
5. Use context clues and prior knowledge to guess the meaning of the words "segregation" and "desegregation" in this section? Look up the words in a dictionary to test your definition.
6. If you could create a new land grant college, what purpose would you create it to research and what would you name the college? Explain why this research is important.

Main Idea of this reading:

Supporting Details:

Find the key dates in this reading and place them on the time line included with this lesson.

Oklahoma Ag in the Classroom is a program of the Oklahoma Cooperative Extension Service, the Oklahoma Department of Agriculture, Food and Forestry and the Oklahoma State Department of Education.

Research and Extension

In the beginning, many of the teachers from the new land-grant colleges worked on local farms to study problems first-hand and try to solve them through experiments and research. The president of Iowa Agricultural College, Seaman Knapp, saw the value of this hands-on experimentation and asked Congress to create an agricultural experiment station at every land grant college. Congress passed the Hatch Act to address this need in 1887.

Eventually land-grant colleges began to look for ways to get the results of their research out to the people who needed it most, the farmers and ranchers. Colleges began arranging extension courses for farmers who were unable to go to the college campuses. Home economics departments followed this example and began to provide information to help women improve rural home life. Programs for young people were set up to demonstrate new methods which the young people could share with their families. In 1913, the name “4-H” was given to clubs formed for this purpose.

In 1914 Congress passed the Smith-Lever Act, which gave land-grant colleges the money to establish an extension program in every state. The Act created a partnership between county, state and federal governments to fund the program.

Oklahoma was doing extension work well before the Smith-Lever Act of May 8, 1914, brought it officially into existence. In 1907 WD Bentley had been assigned to do extension work for the western half of Oklahoma from his US Department of Agriculture (USDA) office in Wichita Falls, Texas. W. M. Bamburger worked in the eastern half of the state. They hired other agents who worked long hours and sometimes used personal money to deliver educational news about agriculture.

By 1914 the Agricultural Special Train, billed as a “county fair on wheels,” was touring the state, delivering advice for the farm and rural home as it went. It transported and exhibited horses, cattle, sheep, hogs, and poultry raised at Oklahoma A&M College. One two-week tour drew almost 50,000 visitors, and one stop in Woodward drew more than 3,500.

QUESTIONS

1. Why was it important for the new land-grant teachers to work on local farms?
2. How did 4-H clubs get started?
3. The Smith-Lever Act created an extension program in every state. How was it funded?
4. What unique method did extension specialists use to get information out into rural areas?
5. What is the meaning of extension as it is used in this reading selection?
6. Do you think the Agricultural Special Train was an effective way to deliver advice to farmers? Do you think a train would work today? Explain your thoughts.

Main Idea of this reading:

Supporting Details:

Find the key dates in this reading and place them on the time line included with this lesson.

Oklahoma Ag in the Classroom is a program of the Oklahoma Cooperative Extension Service, the Oklahoma Department of Agriculture, Food and Forestry and the Oklahoma State Department of Education.

Home Demonstration Agents

When federal funding was provided for Oklahoma A&M in 1914, President Henry G. Bennett organized the college's program to train women home demonstration agents. After their training, they traveled by train, horse and buggy, or automobile to promote home economy in rural Oklahoma. They informed women about gardening practices, poultry raising, preservation of meats, fruits, and vegetables, preparation of nutritious meals, sewing, and household sanitation. During the Great Depression agents taught women to remake clothes and to make mattresses. In the early 1930s McCurtain County farm women used surplus cotton to make 2,000 mattresses.

Before the passage of the Smith-Lever Act, Oklahoma was home to the nation's first federally-appointed black home-demonstration agent. Annie Peters Hunter, who lived with her husband in Boley, Oklahoma, was appointed to the newly-created position as part of an effort to bolster the prosperity of black farm families. Primarily operating in Seminole and Okfuskee counties, she served as the only black home-demonstration agent within a 50-mile radius. One of her main activities was teaching girls to can through canning clubs.

QUESTIONS

1. Why was it important to train home demonstration agents?
2. How did home demonstrations help women during the Great Depression?
3. What is the meaning of the phrase "bolster prosperity" in this reading? Use a dictionary to look up the two words and then write what it means in this reading.
4. How did Annie Peters Hunter help bolster the prosperity of black farm families?
5. What is the meaning of the phrase "home economy" as it is used in this reading selection?
6. Think about the skills that women were taught at this time. Do you believe these are skills that need to be taught today? Which of these skills would you like to learn? Why? Pick one of these skills and write a letter inviting someone who has this skill to teach it to your class.

Main Idea of this reading:

Supporting Details:

Find the key dates in this reading and place them on the time line included with this lesson.

Cooperative Extension Work Today

In the 1930s, Cooperative Extension agents helped Oklahoma recover from the Dust Bowl by introducing drought-tolerant crop varieties, terracing, and planting of windbreaks. Today our state is faced with similar issues as a result of climate change. Cooperative Extension is preparing for the challenge by developing programs that deal with water and land shortages and introducing crops and animals that can withstand the effects of climate change.

By the 1990s, only 2 percent of the population lived on farms. The Extension Service adapted to the changing population with programs to help towns and cities with urban plantings, environmental conservation, and home gardening. Extension also offers educational and safety programs and nutrition education programs to poor families.

Today OSU Extension operates offices in all 77 Oklahoma counties. County offices are staffed with specialists in areas such as agriculture, nutrition, natural resource and environmental management and 4-H youth development. Specialists provide educational services built around four distinct goals: increasing opportunities for agricultural enterprises; natural resources and environmental management; food, nutrition, health and safety education; and youth, family and community development.

QUESTIONS

1. How did Cooperative Extension specialists help Oklahoma recover from the Dust Bowl?
2. What modern challenge similar to the Dust Bowl will Cooperative Extension help Oklahomans face?
3. How did Cooperative Extension adapt to the movement of the population away from farms?
4. Cooperative Extension Service has specialists in every Oklahoma county. Name two specialty areas.
5. What are two of the goals of Cooperative Extension educational services?
6. Choose one of the four goals mentioned in the last paragraph and explain why you think the goal is important to your life. Plan an event in your community to meet the goal you chose. Create a flyer to promote your event.

Main Idea of this reading:

Supporting Details:

Find the key dates in this reading and place them on the time line included with this lesson.

Extending the Knowledge

Use online or library resources to find a list of all the land-grant colleges and universities in the US. Select one and research to find the following information. (Hint: Most university websites will have an “About” section which will provide this information.) Create a large pennant to display your findings. Display your pennants beside a map of the United States.

Name of the land-grant college or university

Location (town or city)

Date of founding

Number of students

Known for

Name of president

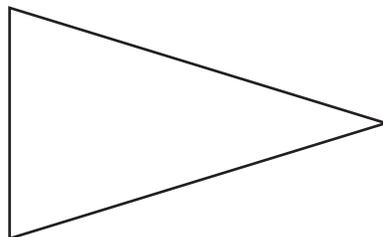
A popular tradition

School colors

School mascot

Other interesting information

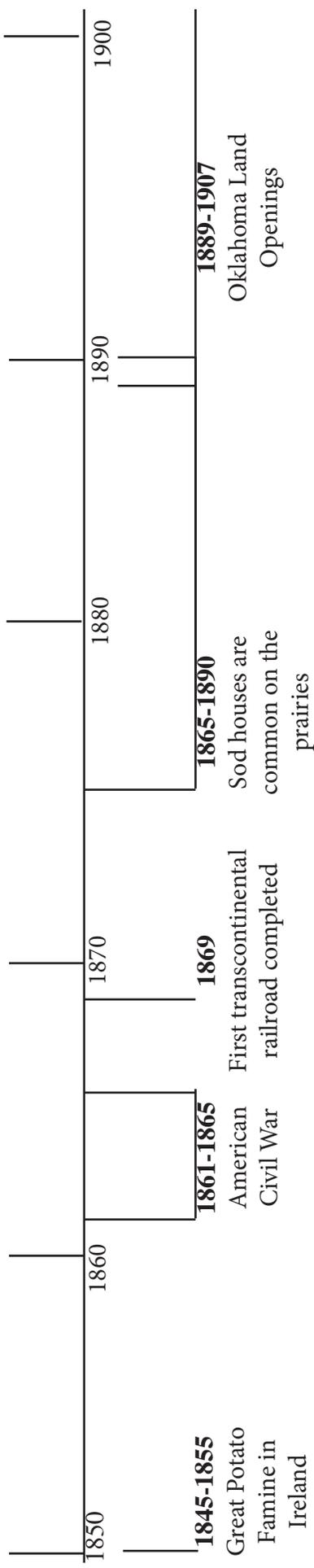
Label the pennant below with the college or university you have researched and decorate it with the school colors. Cut out your pennant and attach it to a map pin. Find your college or university on a large map of the US, and place your pennant in that location.



Name _____

Extending the Knowledge

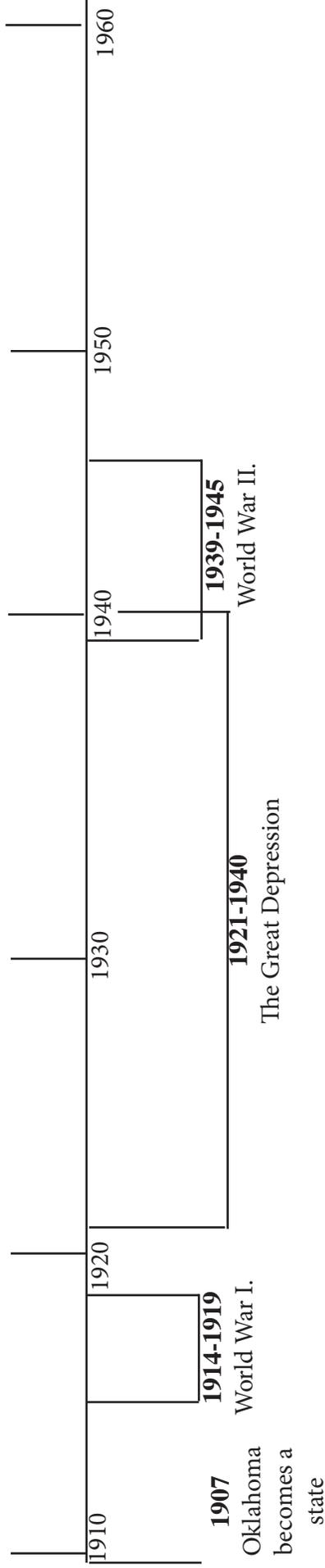
Find key dates from the reading pages included with this lesson and place them in the correct place on this timeline. Research to find additional dates in the history of agriculture.



Oklahoma Ag in the Classroom is a program of the Oklahoma Cooperative Extension Service, the Oklahoma Department of Agriculture, Food and Forestry and the Oklahoma State Department of Education.

Name _____

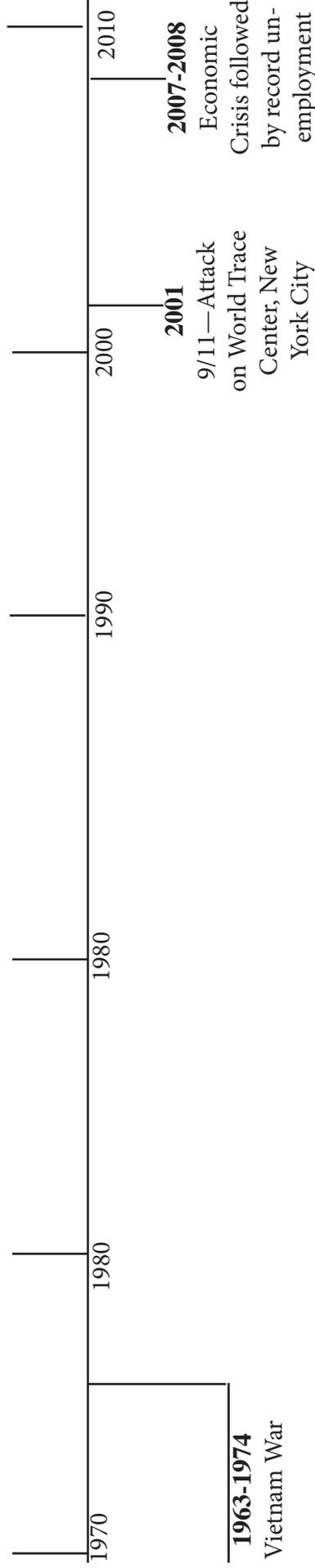
Extending the Knowledge



Oklahoma Ag in the Classroom is a program of the Oklahoma Cooperative Extension Service, the Oklahoma Department of Agriculture, Food and Forestry and the Oklahoma State Department of Education.

Name _____

Extending the Knowledge



Oklahoma Ag in the Classroom is a program of the Oklahoma Cooperative Extension Service, the Oklahoma Department of Agriculture, Food and Forestry and the Oklahoma State Department of Education.