

Dark Days on the Prairie

Objective

Students will read about the Dust Bowl, create time lines of the events leading up to the Dust Bowl, identify cause and effect and use dominos to demonstrate. Students will view photos from the Dust Bowl period and write descriptions of them. Students will create legends to explain maps of the region affected by the Dust Bowl. Students will research to learn about climatic conditions in the Dust Bowl region.

Background

The Dust Bowl covered 100 million acres in the Oklahoma and Texas Panhandles, southeastern Colorado, northeastern New Mexico and southwestern Kansas. The worst of the dust storms swept over southwestern Kansas. Yet many people think only of Oklahoma when they think of the Dust Bowl. In fact, only a small part of Oklahoma—the Panhandle—was affected by the Dust Bowl. In southeastern Oklahoma during the early 1930s, rainfall actually increased.

The Oklahoma Panhandle is the driest part of Oklahoma. The average rainfall is about 20 inches per year, although in some years it gets as little as 12 inches. The average rainfall in the state is 34 inches, with an average of 50 inches in the southeastern part of the state. Farming in the Panhandle is only possible under irrigation and by using fallow farming and residue management systems. The soil is sandy, and high winds are common.

The entire Southern Plains region has always been subject to periodic drought. As long as the land was covered with short sod-forming native grasses, the dry spells did little damage. The first European settlers didn't even try to farm the Southern Plains. They ran cattle on the native grasses that held the fragile soil in place.

In 1889, the Oklahoma territory was opened for homesteading, and the number of settlers increased from a few thousand to 60,000. Thousands of acres of protective grass were plowed under for farmland. This took place during a period of abundant rainfall, and by 1900 the rich fertile soils of Oklahoma supported 390,000 persons. In 1910 a dry spell occurred, but by 1914 the soils were, once again, back in full production.

In 1924 there was a prolonged drought. World War I had just ended a few years before and had disrupted agricultural production in Europe. To make up for food shortages caused by the war, the US government encouraged farmers all over the United States to plant crops "from fence to fence." The shortages also caused the price of wheat to go up, so planting wheat became a very profitable business. Landowners in the Oklahoma Panhandle and all over the Southern Plains plowed up the ground cover and planted winter wheat. With large areas of plowed land having no grassroot system to anchor it, the topsoil of the Oklahoma Panhandle simply blew away. The dust storms and sand storms buried roads and houses. Clouds of

Oklahoma Academic Standards

GRADE 3

Social Studies PALS—1.
A1,3,B4,5,C7,8; 2.A2,6,7,D10;
3.A1,2,3,B4,5

Social Studies Content—
2.1,2,3,3.1A,B,C,E,2C; 4.1,2,9
Science Process—1.2; 3.1,2;
4.3

Earth Science—3.2

COMMON CORE

Language Arts—3.
RI.1,3,4,5,7,8,10; 3.RF.4a;
3.W.2,6,7,10; 3.SL.1,3,4,5

GRADE 4

Social Studies PALS—1.
A1,3,B5; 2.A2,B6,7,9, C10;
3.A1,2, B4,5

Social Studies Content—
1.1A,2E,3,4,5
Science Process—1.2; 3.1,2,3;
4.3

Earth Science—4.1

COMMON CORE

Language Arts—4.
RI.1,3,4,5,7,10; 4.RF.4a;
4.W.2,6,7,10; 4.SL.1,2,4,5

Vocabulary

Black Sunday—April 14, 1935, the day that is associated with the beginning of the Dust Bowl years
Civilian Conservation Corps—a government program established in 1933 to combat unemployment during the Depression of the 1930s. Unemployed, unmarried young men were enlisted to work on conservation and resource-development projects such as soil conservation, flood control, and protection of forests and wildlife. Enrollees were provided with food, lodging, and other necessities, and were given a small monthly salary. The CCC was abolished in 1942.

drought—a long period of abnormally low rainfall, especially one that adversely affects growing or living conditions

Dust Bowl—part of the Great Plains region of the US which is subject to severe droughts

fallow farming—leaving cropland idle, unplowed and unplanted to restore productivity through accumulation of moisture

irrigation—the application of water to soil for the purpose of increasing plant production

native grasses—grass plants which occur naturally in an area and do not have to be planted

residue management—a method of managing crop residues without plowing

Soil Erosion Service—emergency agency of the US government created in 1933. Became Soil Conservation Service in 1935 and the Natural Resources Conservation Service in 1993.

dust reached as far east as Washington, DC.

Farmers in the US learned valuable lessons about soil conservation from the Dust Bowl. One of the most important lessons was that sandy, fragile soils must be covered with some kind of vegetation. In some areas landowners keep some kind of ground cover on their land at all times. In other areas farmers use plowing techniques that prevent the soils from blowing away. Some farmers keep the native grass cover on their land and simply allow cattle to graze there rather than remove the ground cover for planting.

In response to the Dust Bowl the US government created agencies like the Civilian Conservation Corps to replant grasses, plant trees and teach farmers scientific techniques for protecting the soil. These agencies were the forerunners of today's Natural Resources Conservation Service. Through the efforts of these agencies, farmers over the years have learned to respect the special characteristics of the former Dust Bowl lands and to work with them to keep the land productive.

Language Arts

1. Read and discuss background and vocabulary.
2. Hand out copies of the Reading Page.
 - Students will read independently.
 - Students will answer the questions at the bottom of the page, based on their reading.
3. Students will draw a time line of factors leading up to the Dust Bowl, using information found in paragraphs four and five of the Reading Page.
4. Provide students with copies of the photographs included with this lesson.
 - Each student will write a descriptive paragraph based on the photograph.
5. Cut the photographs and descriptions apart and mix up the pictures and the descriptions.
 - Students will read the descriptions and match them with the correct pictures.
6. Cause and Effect Dominoes: Cut post-it notes in half vertically and write the following statements on them.
 - Early settlers allowed cattle to graze too much.
 - There were not enough grass roots to hold the soil.
 - The strong winds blew the soil away.
 - Large dust storms began.
 - Dust storms buried roads and houses.
 - The federal government created the Soil Erosion Service and the Civilian Conservation Corps.
 - People learned how to better care for the land.
 - Students work in groups, with one set of dominoes and post-it notes for each group.
 - Stick the notes on dominoes.

- Students line up the dominoes in the order of events.
- To help students understand how one event causes the next to happen, one student pushes the first domino, which will cause all the others to fall over.

Social Studies

1. Hand out copies of the Dust Bowl map.
 - Students will label the Oklahoma counties and surrounding states that were part of the Dust Bowl of the 1930s.
 - Each students will create a legend in the box provided that explains the information found on the map.
 - Students will use map pencils or color lightly with crayons the three Dust Bowl regions shown on the map.
2. Students will use online or library resources to research weather patterns, soil types, vegetation and agriculture in the Oklahoma counties and the region of each state affected by the Dust Bowl.
 - Students will present their findings using electronic media, posters or other teacher-approved means.
3. Bring in topographical maps and elevation maps of the Plains region so students can see how this area is different from the surrounding areas.
 - Lead a class discussion in which students suggest reasons why this area was so hard hit by the Dust Bowl. Students will draw on their research to identify what all parts of this region have in common? (Light soils covered by short grasses, high winds, extreme temperatures, low average annual rainfall, and agriculture that includes cattle and irrigated crops like wheat, corn and sorghum.)
4. Invite a local person who lived during Dust Bowl times or a historian who can provide information about that time period in Oklahoma history.
 - Students will prepare questions ahead of time and record the interview to share with future students.

Materials

map pencils or crayons

post-it notes

dominoes

2 sprinkler cans

water

garden soil

8- or 10-inch aluminum pans

assorted natural materials
(grass clippings, sticks, dried
or green leaves)

Science

1. Divide the class into two groups, and provide each group with one pint of water in a sprinkler can and 12 cups of soil in an 8- or 10-inch aluminum pan.
 - Students in the first group will construct a hill that slopes gently from one end of the pan to the other.
 - The second group will do the same but mix natural materials with the soil.
 - Prop up the hill end of the first group's pan with a text book.
 - One student in group one will sprinkle water from 12 inches above the sloping hill.
 - Students will discuss and record the results.
 - Before repeating the experiment with the second group's pan, students will predict what will happen and record their predictions.
 - Repeat the experiment.
 - Students will discuss the results and relate them to what they have learned about the environmental conditions that caused the Dust Bowl.

Extra Reading

Bouchard, David, *If You're Not From the Prairie*, Raincoast, 2002.

Chambers, Catherine, *Drought (Wild Weather)*, Heinemann, 2007.

Peterson, Cris, *Amazing Grazing*, Boyd Mills, 2002.

Sandler, Martin W., *The Dust Bowl Through the Lens: How Photography Revealed and Helped Remedy a National Disaster*, Walker Childrens, 2009.

Wallace, Marianne, *America's Prairies and Grasslands: Guides to Plants and Animals*, Fulcrum, 2001.

Dark Days on the Prairie

Oklahoma is windy sometimes. Strong winds carry dust and sand that stings our eyes and makes our teeth gritty. In the 1930s, people living in the Oklahoma Panhandle saw some of the worst dust storms ever. These dust storms swept through the Oklahoma and Texas panhandles, southeastern Colorado, northeastern New Mexico and southwestern Kansas.

On Sunday afternoon, April 14, 1935, clouds of dust turned the sky black. People had to cover their noses and mouths so they could breathe. The day went down in history as Black Sunday. Robert E. Geiger was a newspaper writer who visited the area during that time. He was the first person to call this area “The Dust Bowl.”

Dust storms are common on the Southern Plains. The soil is sandy, annual rainfall is low and high winds are common. The first European settlers there had allowed their livestock to graze the grass on the Plains until there was hardly any left to hold the soil in place.

Wheat shortages caused by World War I, in the early 20th century, caused the price of wheat to rise. Because farmers could make quite a bit of money on wheat, and because the US government encouraged them to do so, farmers on the southern Great Plains plowed up the natural grass cover and planted winter wheat.

The area suffered from severe drought between 1934 and 1937. With large areas of plowed land having no grassroot system to anchor it, much of the soil simply blew away. The dust storms and sand storms buried roads and houses. Clouds of dust reached as far east as Washington, DC.

In response to the disaster, the federal government created the Soil Erosion Service and the Civilian Conservation Corps to recover the land. Workers replanted grass, planted tree windbreaks and shelter belts and showed farmers scientific agricultural methods to help them protect the fragile ecosystem of the Southern Plains.

Cause and Effect Questions

Cause and effect questions and statements often have clue words to help you see relationships in events. Look for these clue words in cause and effect questions and statements.

causes because so therefore since

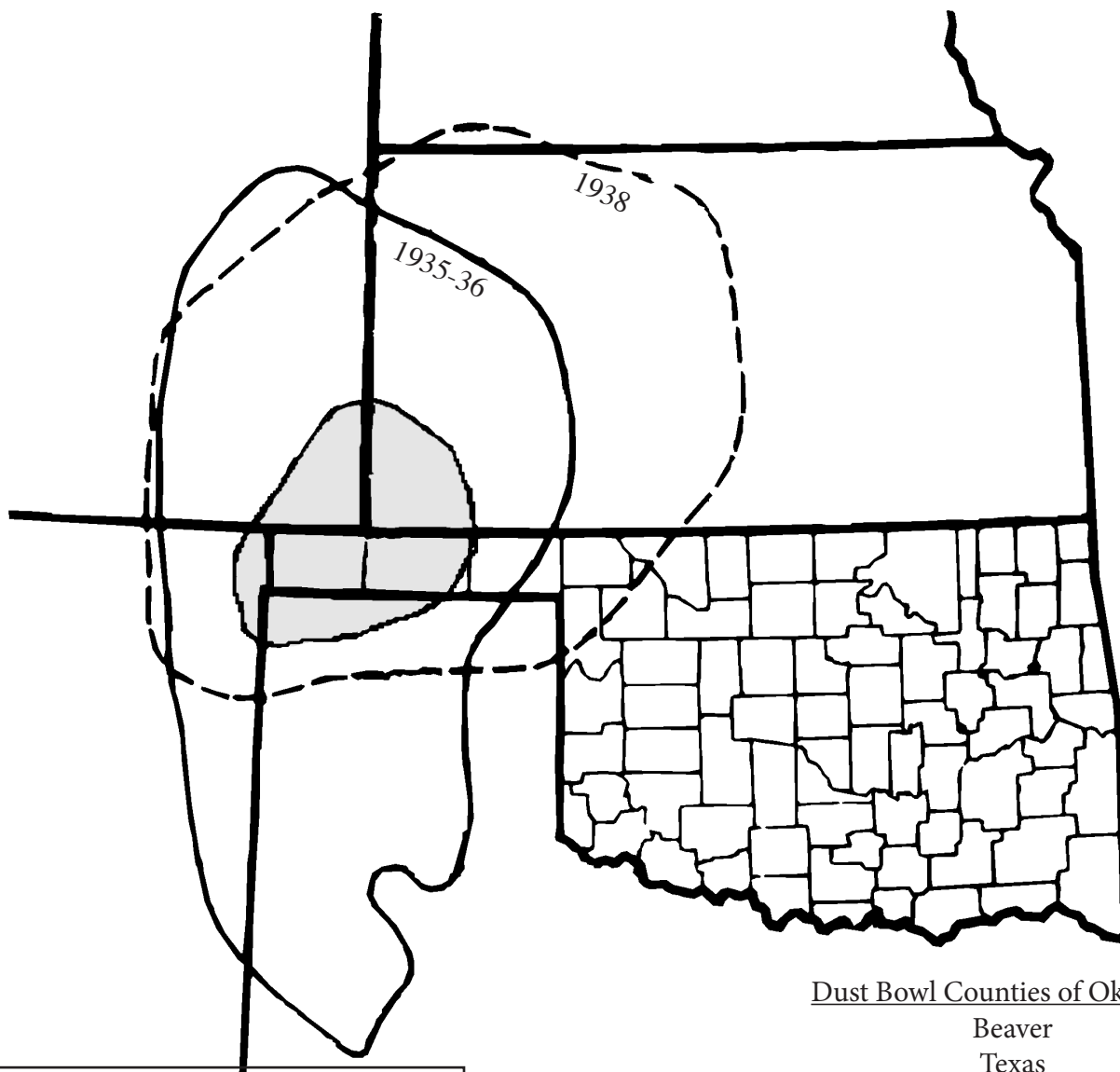
1. According to the Reading Page, what causes our eyes to sting and our teeth to feel gritty?
2. What caused the sky to turn black on April 14, 1935?
3. People covered their noses and mouths so they could_____
4. Why were dust storms so common in the Great Plains?
5. Since the first European settlers allowed cattle to graze too long, what happened?
6. Since there was no grassroot system to hold it, what happened to the soil?
7. In response to the disaster, the federal government created what to recover the land?

Name _____

Dust Bowl Map

The Dust Bowl covered only the Panhandle of Oklahoma but reached much farther into surrounding states. The areas outlined below were the general boundaries of the Dust Bowl from 1935 to 1938. The lined circle in the center is the area that sustained the most severe wind erosion.

Label the Oklahoma counties and surrounding states that were part of the Dust Bowl of the 1930s. Make a legend in the box provided that explains the information found on the map. Use map pencils to color the three Dust Bowl regions shown on the map.



Dust Bowl Counties of Oklahoma

Beaver
Texas
Harper
Ellis
Woodward
Cimarron
Woods

Dust Bowl Map Legend

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 _____

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Photo by B. C. McLean, Edd Roberts Collection, courtesy of the Oklahoma Historical Society, 20778.AG.SCS.OKLA.197

Write a paragraph describing this picture.

Name _____

Dark Days on the Prairie



Photo by B. C. McLean, Edd Roberts Collection, courtesy of the Oklahoma Historical Society, 20778.AG.SCS.OKLA.119.

Write a paragraph describing this picture.

Name _____

Dark Days on the Prairie



Photo by B. C. McLean, Edd Roberts Collection, courtesy of the Oklahoma Historical Society, 207790.ST.DU.1.4.

Write a paragraph describing this picture.

Name _____

Dark Days on the Prairie



Photo by B. C. McLean, Edd Roberts Collection, courtesy of the Oklahoma Historical Society, 20778.AG.SCS.OKLA.350.A

Write a paragraph describing this picture.
