



Oklahoma Alliance for Geographic Education

Teacher Training | Curriculum Development | Outreach Programs

“We Got Cows (and Quakes)”



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****2019 Standards included at the end of the document****

Lesson Title: “We Got Cows (and quakes)”

Grade Level: 6th and 7th

Purpose/Overview:

The objective of the lesson is to introduce students to natural disasters, which ones occur in the state of Oklahoma, and their aftermath. Students will also learn the effects of natural disasters on people and how the government responds.

Essential Question:

What are the effects of natural disasters in the state of Oklahoma?

Supporting Questions:

Where do the majority of large tornadoes occur and what are their impacts?

How does the government help those affected by natural disasters?

What can we as individuals do to help those affected by natural disasters?

National Geography Standards:

Geography Standard 15: How physical systems affect human systems

15.4.2 Environmental hazards affect human activities

The student is able to:

A. Identify and describe the locations of environmental hazards, as exemplified by being able to

- Identify on a US map the locations of occurrences of tornadoes, earthquakes, and hurricanes and overlay a map of population density and identify locations where people and hazards are both located.

- Identify the types of environmental hazards that occur in the student's state or region, graph the occurrences during a five-year period, and map the locations of the occurrences.

B. Describe and analyze the effects of environmental hazards on human activities, as exemplified by being able to:

- Describe how people change their behaviors in response to environmental hazards (e.g., knowing evacuation routes, building a storm shelter, conducting earthquake or tornado drills).

- Construct a disaster preparedness manual for your community or school that includes a list of actions people should take in an emergency situation due to a local environmental hazard event.

Oklahoma Academic Standards for the Social Studies:

6.C.4 The student will analyze the interactions of humans and their environment in the Western Hemisphere.

6.4.2 Analyze the impact of climate and natural disasters on human populations, including displacement, scarcity of consumer goods, economic activities, and loss of life.

Geographic Themes:

Human-Environment Interaction

Materials:

Smartboard or projector for PowerPoint
Chromebooks, iPads, or access to a computer lab
Atlases (for students to use)
Maps of Oklahoma
Highlighters (at least two colors)
Pencils
Giant map of Oklahoma available from OKAGE
Enhanced Fujita tornado scale handout (see PowerPoint slides)
Bell-ringer and exit ticket handout
Tornadoes and Earthquakes Graphic Organizer
[Natural Disasters in Oklahoma PowerPoint](#) and PowerPoint handout
2-Liter bottles
Bottle connectors
Water
Dish Soap

Time Frame:

Two to three 50-55 minute class periods

Procedures:

1. Post the essential question above for the class to view. Ask students to use a scrap piece of paper to write down their immediate response to this question, based on their own experiences and background knowledge. (If you use warm-ups in the classroom, this could be used as a warm-up.) Engage the students in a brief discussion on their responses. What natural disasters have they heard of in the state of Oklahoma? What was the outcome of those natural disasters? Be mindful of students in your class. Be aware that if any students have lived through a tornado or earthquake, then this discussion may be difficult for him or her.
2. Using the Natural Disasters in Oklahoma PowerPoint presentation, introduce students to what tornadoes and earthquakes are, where they occur in Oklahoma, and what resources are available to help individuals after a tornado or earthquake has occurred. Stop at slide 11. You will use the rest of the presentation later in the lesson. Students will fill out a handout using the information provided by the presentation. As you present the PowerPoint, discuss key points.
3. Divide students into groups of 3-4. Each group will need a Chromebook or access to a computer lab. Provide each group with a handout for them to write in the top ten tornadoes in Oklahoma and the top eight earthquakes in Oklahoma. Students will need to access two websites to conduct research, [Top Ten Deadliest Oklahoma Tornadoes \(1882-Present\)](#) and <https://earthquaketrack.com/p/united-states/oklahoma/biggest>. You can either place the links in Google Classroom or have them type in the links into the web search bar. Once the student groups have filled in their information, give the groups a map of Oklahoma. Students will use the two highlighters to highlight the places where the tornadoes and earthquakes occurred.

Students will need to use one color for the tornadoes and one color for the earthquakes.

****Second warm-up provided for the beginning of the second day. Show the short video clip from "Twister" titled We got Cows. Have the students answer the question on the warm-up sheet.****

📺 Twister: Tornado hunting (ft. Helen Hunt and Bill Paxton) "We Got Cows!"

4. Students will take the maps they filled out to the giant map. As groups, they will place a tornado marker on the cities where the tornadoes occurred and an earthquake marker where an earthquake occurred. This will be done as groups. Students should choose one student to place the marker. Have student groups take turns placing the markers until all markers are all gone. After the markers have been placed, have students make observations about the placement of the markers. Where are the majority of cities located? Why might the cities be located in this manner? Is there a pattern to their location? What do they notice about the location of earthquakes in Oklahoma? How are they clustered? Do people eventually move based on tornado frequency? Have the students fill out an exit ticket demonstrating their understanding of the location of tornadoes and earthquakes.

5. Continue using the Natural Disasters in Oklahoma PowerPoint presentation focusing on what resources are available to help individuals after a tornado or earthquake. Show students the short video clip on the aftermath of the tornado in Dallas, Texas. Provide students with handouts from FEMA on tornadoes and earthquakes. Discuss with students what help the individuals that lived during the tornado may need. For the students' last assignment, have them fill out an action plan to help victims of natural disasters with a focus on Oklahoma.

Assessment Options:

Have the students complete a short multiple choice assessment that focuses on essential vocabulary points. This assessment should not be more than 10 questions. You can use ZipGrade to grade the assessment if desired.

Extension and Enrichment/Simplification:

If time allows, conduct a STEM project. Students will create a tornado in a bottle. This may be done as small groups or individuals based on materials or class size. Have the students complete the handout at the end of the project.

****All responses must be at least three complete sentences per question.**

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The paper has a slight shadow on the right side, suggesting it's resting on a surface.

[illegible][illegible]

Tornadoes and Earthquakes Graphic Organizer

Use the following website to fill in the graphic organizer about the top ten deadliest tornadoes based on damage and fatalities, and the top eight earthquakes based on magnitude in Oklahoma. **You can use a separate sheet of paper if needed.*

[Top Ten Deadliest Oklahoma Tornadoes \(1882-Present\)](#)

[The Largest Earthquakes in Oklahoma, United States](#)

Top Ten Deadliest Tornadoes

Rank	City/Town	Date	F-Scale/ EF Scale	Fatalities and Injuries	Short Description
1					
2					
3					
4					
5					
6					
7					

8					
9					
10					

Top Eight Earthquakes

[illegible]

**Answer the following questions while going through the presentation about
Oklahoma's Natural Disasters**
[Natural Disasters in Oklahoma - 2025](#)

1. What are natural disasters?

2. What are two types of natural disasters that occur in Oklahoma?

3. What is a tornado?

4. Tornadoes are classified using which
scale? _____

5. What is the wind speed of an EF 5 tornado? _____

6. Where is the location of a modern-day EF 5 tornado that occurred in the
last 25 years?

7. What is an earthquake?

8. What is the most common way to classify earthquakes?

9. How often does a magnitude 10 earthquake occur at any place across the globe?

10. Give at least four examples of ways natural disasters affect the areas in which they occur.

11. What are four agencies or programs that help after a natural disaster?

12. In what year was the Red Cross founded? _____

13. The Red Cross responds to an emergency every _____ minutes.

14. How many years has FEMA been helping with disaster relief? _____

15. Give three ways that the Salvation Army helps during a natural disaster.

16. Give four examples of local agencies that help during a natural disaster.

2019 Standards this lesson covers:

6.4 The student will analyze the interactions of humans and their environment in the Western Hemisphere.

6.4.3 Analyze the impact of climate and natural disasters on human populations, including forced migration, scarcity of consumer goods, economic activities, and loss of life.