



## LESSON PLAN

# WEATHERING TEXAS

## Social Studies, Grades 3–8

### OBJECTIVE

Through the analysis of primary-source archival footage from TAMI's interactive web exhibit, "Weathering Texas," students will demonstrate an understanding of extreme weather events in Texas during the 20th and 21st centuries.

Teachers will take students in grades 3 - 8 on a "guided tour" of "Weathering Texas," <http://www.weatheringtexas.com/>, where students will explore the historical context of certain events and the conditions that made them serious disasters; the geographical and climatological underpinnings of such occurrences; the response taken by state, local, and federal officials; and the experiences of those who survived these storms. Students will complete analysis worksheets on their own or collectively, with teacher guidance, requiring them to apply critical-thinking skills to organize information.

\*Please note, some of these videos may be distressing to some children. They depict often devastating weather events and show homes destroyed, people upset, and both children and adults in dangerous situations. It is recommended that you review the videos prior to screening them to determine if they are appropriate for your students' level.

### PROCESS

#### **Prior Knowledge**

The following lesson assumes that students:

- Are aware that extreme weather conditions have widespread impact on people, infrastructure, economies, and the landscape and geography of the areas impacted.
- Have some familiarity with weather conditions such as thunderstorms, hurricanes, and tornadoes.
- Are capable of making and recording observations on lesson material independently or in groups.

#### **Hook**

Ask students to share types of extreme weather that they have experienced or read about. List these on the whiteboard or chart paper. Ask students what they remember about the event itself. How did they learn what was happening? What did they do during the event? What do they remember about the aftermath of the extreme weather event, and what was the response?



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Save this list to revisit after the lesson. Students can compare the events they learn about in “Weathering Texas,” <http://www.weatheringtexas.com/> to the events they experienced first-hand.

### Lesson

Tell students that they will be visiting an online exhibit about extreme weather events in Texas and people’s response to these events. Explain that the exhibit features videos from news broadcasts, home movies, interviews, and informational films on what causes these extreme weather events, as well as the actions of responders.

Distribute the “Weathering Texas” Exhibit Guide Packet (see Worksheets) to each student and tell them that they will be using this worksheet packet to gather information they see in the exhibit and in the featured videos. Let them know that after the exhibit tour, they will use the information they record for independent research and class discussion.

The Exhibit Guide Packet is meant to be partially completed with teacher guidance and partially completed by the students individually or in groups. Students will complete the section on “Disasters” as part of Independent Practice.

Visit the “Weathering Texas” exhibit at the Texas Archive of the Moving Image, <https://www.weatheringtexas.com/>

Describe each section of the exhibit to your class. Show the following films and pause occasionally to ask them to record their answers in the Exhibit Guide Packet. Make sure students have time to reflect on the material that they are viewing and that class discussion allows students to think critically about weather events in Texas history.

### Exhibit Sections

#### *History*

Review the timeline with students. Have students make note of the exact dates of events listed in their worksheets and any important facts for major events. Focus on major events, but also point out any patterns in the weather events. Ask students if they have any idea why so many extreme weather events are recorded between the 1950s and the 1980s. Ask students if they feel that this concentration of events may have changed the way both the public and government agencies responded. If yes, then how, and if no, then why not?

#### *Climate Regions*

Review the section of the exhibit on climate regions in Texas. Starting with Central Texas and scrolling through the remaining pages, review the blurbs for each of the climate regions and have students take notes. Ask students to predict what type of extreme weather each area might experience. Ask students what geographic factors might contribute to that weather.



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Select one or more of the climate regions (Suggestion – Select the climate region that students live in), and view the following video(s) as examples of extreme weather in those areas.

### Central Texas



#### **KTBC Fox-7 at 50 (2002)**

This video clip is a look back at the major weather events in the Central Texas/Austin area that were featured on KTBC in Austin during its first 50 years on the air. Questions to ask: What is the severe weather event that occurs the most frequently in this video? What actions by emergency crews are discussed in this video? How do you think the weather events in this video changed the areas they impacted?

[4:56]

[https://texasarchive.org/2012\\_03729](https://texasarchive.org/2012_03729)

### North Central Texas



#### **Angry Waters – Spring Floods hit Texas and Canada**

This video examines the flooding in North Central Texas that occurred in 1966 and led to extensive property damage and the loss of 26 lives. The video discusses the actions of first responders and future infrastructure-improvement projects that were designed to prevent flooding in the future. Questions to ask: In what ways does the narrator say that people's lives are impacted by the flooding? What are some of the immediate actions taken by first responders, and what are planned long-term solutions to flooding?

[2:46]

[https://texasarchive.org/2008\\_00213](https://texasarchive.org/2008_00213)

### South Texas: Floods



#### **Hurricane Aftermath Kills 11 in Texas**

This video features the damage caused by Hurricane Beulah and the flooding that followed. Questions to ask: In what ways does the narrator say that people's lives are impacted by the flooding? What are some of the immediate actions taken by first responders, and what is the government's response?

[1:07]

[https://texasarchive.org/2008\\_00190](https://texasarchive.org/2008_00190)



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### Southeast Texas



#### **Story of a Hurricane (1961)**

Story of a Hurricane features footage created before, during, and after Hurricane Carla made landfall on the Texas coast in 1961. In this segment, cameramen capture the high winds, rising tides, and heavy rains that preceded the storm. Questions to ask: In what ways do you think the bad weather before the storm made it more difficult to prepare for when the hurricane landed? How would not knowing the exact location of where the hurricane would hit make it harder for people to stay safe?

[start at 5:04-10:15]

[https://texasarchive.org/2015\\_02477](https://texasarchive.org/2015_02477)

### Texas Panhandle



#### **Twister!**

*Twister!* combines dramatizations, news footage, and interviews to reconstruct the events surrounding the F5 tornado that hit Lubbock on May 11, 1970. In this segment, news footage of the devastation and interviews with people who sheltered in place when the tornado hit illustrate the damage caused by the storm. Questions to ask: Even after the tornado passes, the streets of Lubbock are still dangerous. In what ways does the video state that people are at risk right after the tornado? What are some of the immediate challenges the city faces?

[start at 15:47-18:55]

[https://texasarchive.org/2009\\_00879](https://texasarchive.org/2009_00879)

### West Texas



#### **Texas – Troubled Times in the Southwest**

This video discusses the impact of the widespread, long-term droughts in West Texas that occurred in the mid-to-late 1960s. Questions to ask: In what ways does the narrator say people's lives are impacted by the drought? What are some of the actions that ranchers have to take because of the drought?

[0:47]

[https://texasarchive.org/2008\\_00173](https://texasarchive.org/2008_00173)



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### ***Ranching and Agriculture***

Review the exhibit's discussion of the impact on ranching and agriculture. Have students make note of the effect major weather events have on agriculture. Watch the video KOSA-TV – Drought Effects (1980) [1:18] [https://texasarchive.org/2013\\_01458](https://texasarchive.org/2013_01458) and learn about the impact of these disasters on prices.

### ***Displacement***

Review the exhibit's discussion of how weather-related disasters in Texas have led to the movement of numerous people and the loss of homes and jobs. Have students brainstorm what basic needs people need to taken care of when they are forced from their homes. Watch the video Hurricane! – Part II (1962) [2:23] [https://texasarchive.org/2015\\_01982](https://texasarchive.org/2015_01982) that shows people in temporary relief shelters trying to escape Hurricane Carla.

### ***Response***

The response portion of the exhibit is divided into four sections – Relief, Disaster Preparedness, Flood & Drought Control, and The National Weather Service. While relief describes the actions taken immediately after a severe weather event, the remaining three sections focus on what can be done to prepare for and minimize the severity of these events in the future. Talk to your students about the work that goes into predicting storms, making buildings and cities safer against weather events, instructing citizens on what to do, and responding to people's needs after a disaster. When watching each of these videos, have students think about why each of these responses is important and what role these may have played in each of the events discussed previously. Discuss. Recommended videos to facilitate this conversation are:

#### Relief



**The President (September, 1967)**

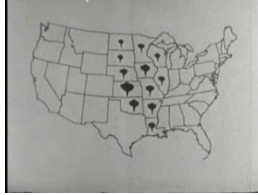
[02:41]

[https://texasarchive.org/2010\\_00064](https://texasarchive.org/2010_00064)

#### Disaster Preparedness



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### **Tornado (1956)**

[01:52]

[https://texasarchive.org/2015\\_00577](https://texasarchive.org/2015_00577)



### **Terrible Tuesday – Segment 2 (1975)**

[01:45]

[https://texasarchive.org/2013\\_02598](https://texasarchive.org/2013_02598)

## Flood & Drought Control



### **When it Rains**

21:45 (a selection of the video starting at 2:57-6:29 can also be played if time is an issue)

[https://texasarchive.org/2011\\_00363](https://texasarchive.org/2011_00363)

## The National Weather Service



### **Terrible Tuesday (1979)**

05:02

[https://texasarchive.org/2013\\_02598](https://texasarchive.org/2013_02598)

## **Worksheets**

“Weathering Texas” Exhibit Guide Packet

[https://texasarchive.org/sites/default/files/2020-01/Weathering\\_Texas\\_Exhibit\\_Guide\\_Packet.pdf](https://texasarchive.org/sites/default/files/2020-01/Weathering_Texas_Exhibit_Guide_Packet.pdf)

## **Independent Practice**

Either independently or in groups, students will research one of the major weather-related disasters in Texas history and create a poster representing what the front page of a newspaper would say the day after a disaster. Students can begin by viewing selected videos of their chosen event in the Disasters section of the online exhibit “Weathering Texas,”

<https://www.weatheringtexas.com/>. Using the research page in their Exhibit Guide Packet, students will gather information to use in the creation of their poster. Students can use images and quotes from the videos in their writing. The poster should contain the name and date(s) of the event, what extreme weather occurred, the location of the event, the people involved, and the response to the weather event. The poster should also contain what the students believe



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needs to be done to recover from the event or to prepare for future weather events of that kind.

### Extended Learning

Students will research a major weather event in Texas history that they experienced or heard about. Teachers may bring out the weather events listed by students during the hook part of the lesson. Students will write a short essay on the event of their choice, outlining the date of the event, a description of what happened, the people and places impacted, and the effects of the extreme weather.

## TEKS

### Social Studies - Grade 3

- 1.A (History) Describe how individuals, events, and ideas have changed communities, past and present.
- 2.B (History) Identify ways in which people in the local community and other communities meet their needs for government, communication, and transportation.
- 3.B (History) Create and interpret timelines.
- 4.A (Geography) Describe and explain variations in the physical environment, such as climate.
- 4.B (Geography) Identify and compare how people in different communities adapt to or modify the physical environment in which they live.
- 4.C (Geography) Describe the effects of physical processes such as hurricanes in shaping the landscape.
- 4.D (Geography) Describe the effects of human processes such as agriculture and conservation in shaping the landscape.
- 9.C (Government) Identify services commonly provided by local, state, and national governments.
- 12.B (Citizenship) Identify examples of actions individuals and groups can take to improve the community.
- 12.C (Citizenship) Identify examples of nonprofit and/or civic organizations such as the Red Cross and explain how they serve the common good.
- 16.B (Science, technology, and society) Identify the impact of scientific breakthroughs and new technology in computers on various communities.





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17.A (Social Studies skills) Research information, including historical and current events and geographic data, about the community and world, using a variety of valid print, oral, visual, and Internet resources.

17.B (Social Studies skills) Sequence and categorize information.

17.C (Social Studies skills) Interpret oral, visual, and print material by identifying the main idea, distinguishing between fact and opinion, identifying cause and effect, and comparing and contrasting.

17.D (Social Studies skills) Use various parts of a source, including the table of contents, glossary, and index as well as keyword Internet searches, to locate information.

18.A (Social Studies skills) Express ideas orally based on knowledge and experiences.

18.C (Social Studies skills) Use standard grammar, spelling, sentence structure, and punctuation.

## Social Studies - Grade 4

5.A (History) Identify the impact of various issues and events on life in Texas such as urbanization, the Dust Bowl, and natural disasters.

7.B (Geography) Identify, locate, and compare geographic regions of Texas (Mountains and Basins, Great Plains, North Central Plains, Coastal Plains), based on climate.

9.A (Geography) Describe ways people have adapted to and modified their environment in Texas, past and present, such as timber clearing, agricultural production, wetlands drainage, energy production, and construction of dams.

9.C (Geography) Compare the positive and negative consequences of human modification of the environment in Texas.

20.B (Science, technology, and society) Describe how scientific discoveries and innovations such as in aerospace, agriculture, energy, and technology have benefited individuals, businesses, and society in Texas.

21.A (Social Studies skills) Differentiate between, locate, and use valid primary and secondary sources such as computer software; interviews; biographies; oral, print, and visual material; documents; and artifacts to acquire information about Texas.

21.B (Social Studies skills) Analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations and predictions, and drawing inferences and conclusions.

21.C (Social Studies skills) Organize and interpret information in outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps.





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22.A (Social Studies skills) Use social studies terminology correctly.

22.B (Social Studies skills) Incorporate main and supporting ideas in verbal and written communication.

22.C (Social Studies skills) Express ideas orally based on research and experiences.

22.D (Social Studies skills) Create written and visual material such as journal entries, reports, graphic organizers, outlines, and bibliographies.

22.E (Social Studies skills) Use standard grammar, spelling, sentence structure, and punctuation.

## Social Studies - Grade 5

5.A (History) Analyze various issues and events of the 20th century.

9.B (Geography) Analyze the positive and negative consequences of human modification of the environment in the United States, past and present.

23.C (Science, technology, and society) Explain how scientific discoveries and technological innovations in communication have benefited individuals and society in the United States.

23.D (Science, technology, and society) Predict how future scientific discoveries and technological innovations could affect society in the United States.

24.A (Social Studies skills) Differentiate between, locate, and use valid primary and secondary sources such as computer software; interviews; biographies; oral, print, and visual material; documents; and artifacts to acquire information about the United States.

24.B (Social Studies skills) Analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations and predictions, and drawing inferences and conclusions.

24.E (Social Studies skills) Identify the historical context of an event.

25.A (Social studies skills) Use social studies terminology correctly.

25.B (Social studies skills) Incorporate main and supporting ideas in verbal and written communication.

25.C (Social studies skills) Express ideas orally based on research and experiences.

25.D (Social studies skills) Create written and visual material such as journal entries, reports, graphic organizers, outlines, and bibliographies.

25.E (Social studies skills) Use standard grammar, spelling, sentence structure, and punctuation.



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### Social Studies - Grade 6

3.A (Geography) Pose and answer geographic questions, including: Where is it located? Why is it there? What is significant about its location? How is its location related to the location of other people, places, and environments?

4.D (Geography) Identify and locate major physical and human geographic features such as landforms, water bodies, and urban centers of various places and regions.

6.A (Geography) Describe and explain the effects of physical environmental processes such as erosion, ocean currents, and earthquakes on Earth's surface.

7.A (Geography) Identify and analyze ways people have adapted to the physical environment in various places and regions.

7.B (Geography) Identify and analyze ways people have modified the physical environment such as mining, irrigation, and transportation infrastructure.

7.C (Geography) Describe ways in which technology influences human interactions with the environment such as humans building dams for flood control.

20.B (Science, technology, and society) Explain how resources, belief systems, economic factors, and political decisions have affected the use of technology.

20.C (Science, technology, and society) Make predictions about future social, political, economic, cultural, and environmental impacts that may result from future scientific discoveries and technological innovations.

21.A (Social studies skills) Differentiate between, locate, and use valid primary and secondary sources such as computer software; interviews; biographies; oral, print, and visual material; and artifacts to acquire information about various world cultures.

21.B (Social studies skills) Analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations and predictions, and drawing inferences and conclusions.

21.C (Social studies skills) Organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps.

22.A (Social studies skills) Use social studies terminology correctly.

22.B (Social studies skills) Incorporate main and supporting ideas in verbal and written communication based on research.

22.C (Social studies skills) Express ideas orally based on research and experiences.



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22.D (Social studies skills) Create written and visual material such as journal entries, reports, graphic organizers, outlines, and bibliographies based on research.

22.E (Social studies skills) Use standard grammar, spelling, sentence structure, and punctuation.

### **Social Studies - Grade 7**

7.E (History) Analyze the political, economic, and social impact of major events, including World War I, the Great Depression, and World War II, on the history of Texas.

7.F (History) Analyze the political, economic, and social impact of major events in the latter half of the 20th and early 21st centuries such as major conflicts, the emergence of a two-party system, political and economic controversies, immigration, and migration.

9.C (Geography) Analyze the effects of physical and human factors such as climate, weather, landforms, irrigation, transportation, and communication on major events in Texas.

10.B (Geography) Explain ways in which geographic factors such as the Galveston Hurricane of 1900, the Dust Bowl, limited water resources, and alternative energy sources have affected the political, economic, and social development of Texas.

20.A (Science, technology, and society) Compare types and uses of technology, past and present.

20.C (Science, technology, and society) Analyze the effects of various scientific discoveries and technological innovations on the development of Texas such as advancements in the agricultural, energy, medical, computer, and aerospace industries.

20.D (Science, technology, and society) Evaluate the effects of scientific discoveries and technological innovations on the use of resources such as fossil fuels, water, and land.

21.A (Social studies skills) Differentiate between, locate, and use valid primary and secondary sources such as computer software, databases, media and news services, biographies, interviews, and artifacts to acquire information about Texas.

21.B (Social studies skills) Analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations and predictions, and drawing inferences and conclusions.

21.C (Social studies skills) Organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps.

21.D (Social studies skills) Identify points of view from the historical context surrounding an event and the frame of reference that influenced the participants.

22.A (Social studies skills) Use social studies terminology correctly.



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22.B (Social studies skills) Use standard grammar, spelling, sentence structure, punctuation, and proper citation of sources.

22.D (Social Studies skills) Create written, oral, and visual presentations of social studies information.

### Social Studies - Grade 8

28.A (Science, technology, and society) Compare the effects of scientific discoveries and technological innovations that have influenced daily life in different periods in U.S. history.

28.B (Science, technology, and society) Identify examples of how industrialization changed life in the United States.

29.A (Social Studies skills) Differentiate between, locate, and use valid primary and secondary sources such as computer software, databases, media and news services, biographies, interviews, and artifacts to acquire information about the United States.

29.B (Social Studies skills) Analyze information by sequencing, categorizing, identifying cause-and-effect relationships, comparing, contrasting, finding the main idea, summarizing, making generalizations and predictions, and drawing inferences and conclusions.

29.C (Social Studies skills) Organize and interpret information from outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps.

29.D (Social Studies skills) Identify points of view from the historical context surrounding an event and the frame of reference which influenced the participants.

29.E (Social Studies skills) Support a point of view on a social studies issue or event.

30.A (Social Studies Skills) Use social studies terminology correctly.

30.B (Social Studies Skills) Use standard grammar, spelling, sentence structure, punctuation, and proper citation of sources.

30.C (Social Studies Skills) Transfer information from one medium to another, including written to visual and statistical to written or visual, using computer software as appropriate.

30.D (Social Studies Skills) Create written, oral, and visual presentations of social studies information.