

Weather All Around Us

Teacher Facilitation Notes

In General . . .

- Project the slide deck in edit mode—do not show it as a slideshow.
- Hide the speaker notes before projecting. (View/Show Speaker Notes)
- Hide the toolbar. (Click on the up arrow at the right end of the tool bar.)
- Call on students to read the various content shown on slides.
- For each investigation, assemble the needed materials for each group and place in a central location for ease of distribution.
- Duplicate copies of the data sheets for each student.

Materials Needed:

Science notebooks, 1 per student

Student Data Sheet, 1 per student

Today's Weather Chart, 1 per student

Pencils

Student Evaluation, 1 per student

Red crayon, 1 per student

Engage: Watching the Weather

- Introduce the topic by watching the video. Discuss as desired.
- After reading the second slide (Today's Weather), display this website: <https://www.weather.gov/>. In the upper left-hand corner, type in the zip code of your school or the closest large town or city. Click on Go.
- Make sure each student has a *Today's Weather* chart and a pen or pencil. Assist students in recording the information on the chart. (Do not explain what the terms mean yet. They will be learning about each weather condition that they are observing and recording.)
- NOTE: Have students fill in this chart at the beginning of each class period throughout this lesson.
- Read through and discuss the rest of the slides that describe the causes of weather. Discuss as desired.

Explore: Weather Conditions

- Read and discuss the introductory slide about measuring and recording weather conditions.
- Read and discuss each slide about different weather conditions. (For the temperature slide, have students identify the temperature shown on the thermometer. Record in the correct spaces.) If desired, have students define each weather term in their science notebooks.
- Facilitate a class discussion about weather conditions as desired.

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Teacher Facilitation Notes, p. 2

Explain: Weather-Here, There, and Everywhere

- Before beginning this lesson, duplicate the Texas city map and the student data sheet back-to-back.
- Read the introductory paragraph.
- Have students study the weather map to look for similarities and differences in the temperatures for the various cities shown on the map.
- Discuss the two questions shown on the slide:
 - What pattern do you notice about the temperatures shown on this map? (As you move from North to South and West to East, the temperatures get warmer.)
 - What do you think causes the differences in temperature between Amarillo and Brownsville. (There could be two causes for this temperature difference. First, Amarillo is further north than Brownsville. Secondly, there might be a cold front moving through Amarillo that has not yet reached Brownsville.)
- Discuss the introductory material on the slide with the weather data for 8 different cities.
- Have students look at the Texas map. Remind them that Washington, D.C., will not be shown on this map because it is not in Texas.
- Have students find the seven Texas cities from the data table on the Texas map. Ask them to draw a rectangle around each city with their red crayons. Point out that the cities are spread across Texas.
- Ask the following questions about the cities that they drew a red box around:
 - Which city is the farthest north on this map? South?
 - Which city is the farthest west on this map? East?
 - Which three cities are located closest to the Gulf of Mexico?
 - Of ALL the cities on this map, which city do you think would have the most similar weather conditions at a given time to Dallas? Why?
 - Of ALL the cities on this map, which city do you think would have the most different weather conditions at a given time to El Paso? Why?
- Depending on ability levels, have students complete their data sheets independently, in small groups, or as a whole class, using the data table for weather conditions in the eight cities.
- Discuss as desired.

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Teacher Facilitation Notes, p. 3

Elaborate: Predicting the Weather

- Call on volunteers to read each slide. Discuss as desired.
- On the tools slide, drag and drop the explanations and tool names to the correct boxes. Discuss.

Evaluate

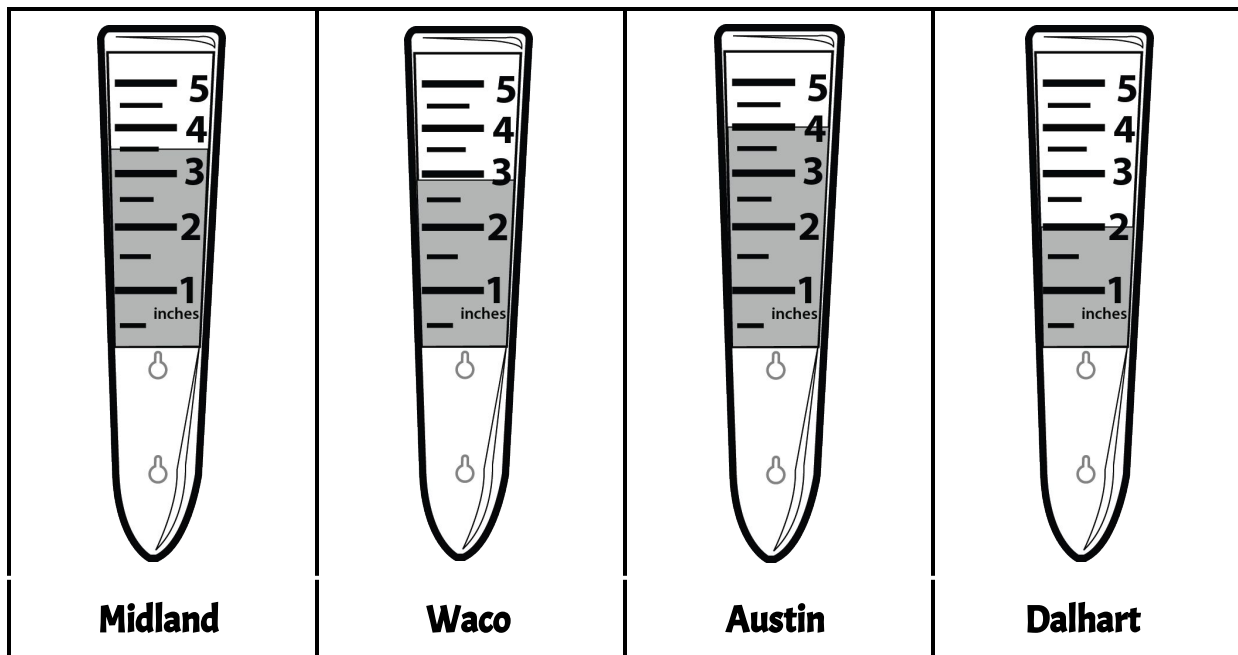
- Let students complete the quiz independently.
- Discuss as desired.

Weather All Around Us

Name: KEY

Evaluation

1. A cold air mass moving across Dallas has a temperature of 26°F . A warm air mass over Houston has a temperature of 79°F . What is the difference between the temperature of the cold air mass and the warm air mass?
 A 53°
B 47°
C 37°
D 33°
2. The rain gauges below show how much rain fell in four different Texas cities on the same day.



Which list shows the cities in the correct order from least rainfall to greatest rainfall?

- F Midland, Waco, Austin, Dalhart
- G Dalhart, Waco, Midland, Austin
- H Austin, Midland, Waco, Dalhart
- J Waco, Austin, Dalhart, Midland

Weather All Around Us

Name: KEY

Evaluation

The table shows average weather data collected in October, 2021, for four Texas cities. Use the information in the table to answer questions 3 and 4.

City	Temperature	Wind Speed	Precipitation
Galveston	85°F	9.8 mph	5.7 inches
Carrollton	82°F	8.5 mph	4.1 inches
Laredo	86°F	9.3 mph	0.64 inches
Alpine	83°F	9.7 mph	0.11 inches

3. Which city had the warmest average temperature in October, 2021?

A Galveston



B Carrollton

C Laredo



D Alpine

4. A student did a report on one of the cities in the table. She reported that the city had the least average temperature and wind speed of the four cities. On which city did the student do her report?

F Galveston

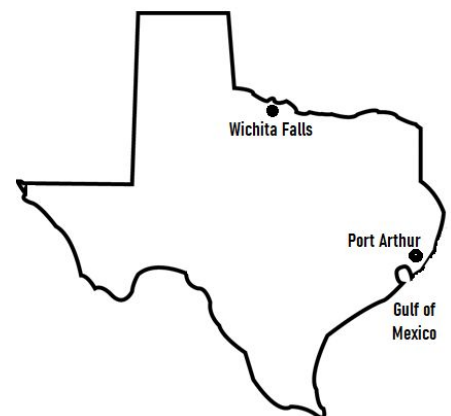
G Carrollton

H Laredo



J Alpine

5. In August, 2017, Hurricane Harvey made landfall in Texas. Port Arthur received 54.7 inches of rain that month. Wichita Falls received 7.11 inches of rain. Why do you think Port Arthur received so much more rain than Wichita Falls?



Port Arthur received more rain because it is closer to the Gulf of Mexico

and closest to where Hurricane Harvey landed. Wichita Falls is much

farther from where the hurricane landed.

Weather All Around Us

Name: _____

Today's Weather in _____

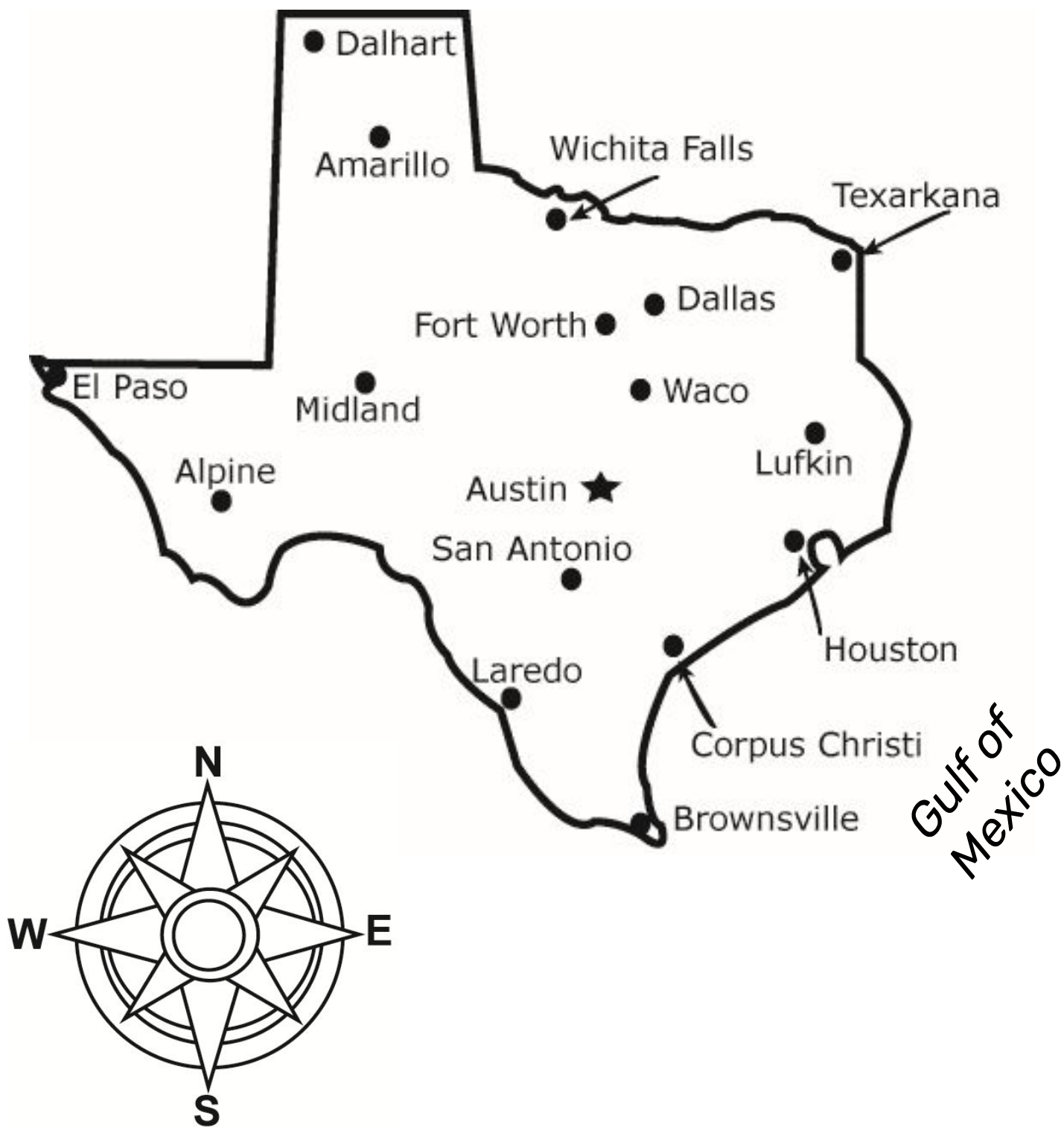
Date	Current Temperature	Sky Conditions	Wind Direction and Speed	Air Pressure	Humidity	Rainfall	Visibility

1. What season is it where you live? _____
2. Which day had the warmest temperature? _____
3. How much rainfall occurred during the whole reporting period? _____

Weather All Around Us

Name: _____

Explain: Weather-Here, There, and Everywhere



Weather All Around Us

Name: _____

Explain: Weather-Here, There, and Everywhere

1. Which city had the highest temperature? The lowest temperature? _____

2. Which cities were experiencing rain when this data was collected? _____

3. Describe the weather in Dallas on this day. Be sure to discuss temperature, wind, precipitation, and sky conditions. _____

4. Compare and contrast the wind speeds and directions in Amarillo and Corpus Christi. _____

5. Were the weather conditions in Houston more similar to those in San Antonio or Washington, D.C.? Explain. _____

Weather All Around Us

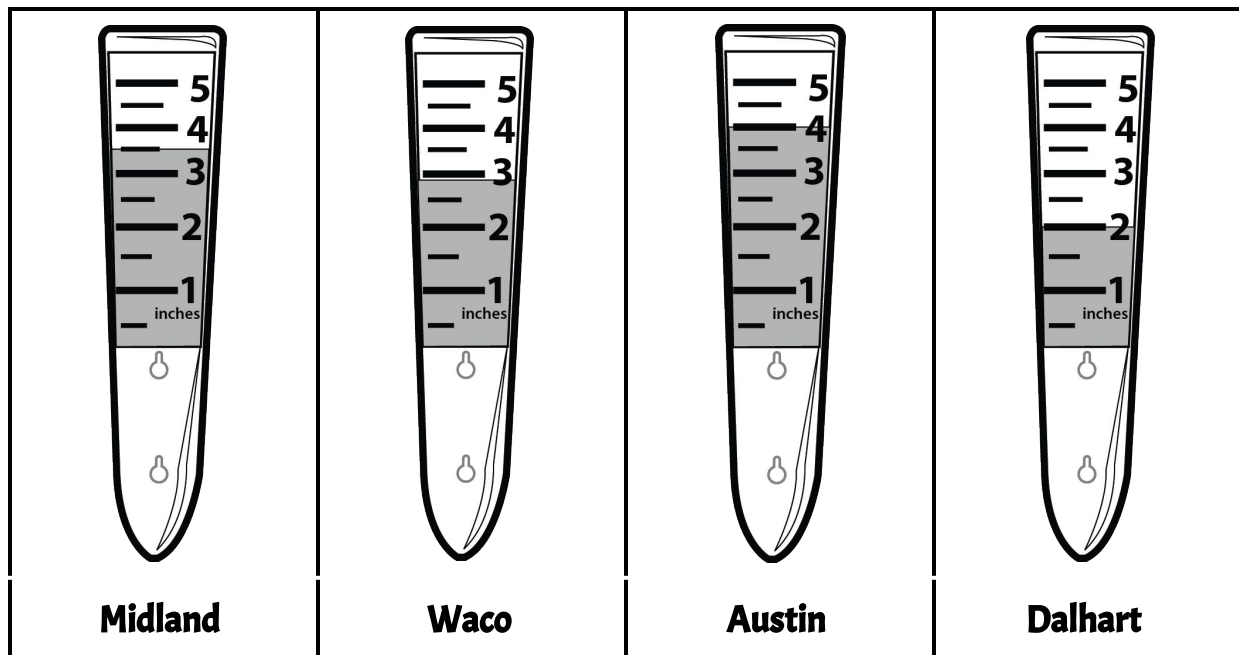
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