

## LEGEND-ARY SKILLS

### Purpose

- To explain the meanings of symbols, text, colors, and scale on the map to describe physical features
- To apply knowledge of map symbols, colors, labels, and cartographic conventions to identify features of Texas
- To identify latitude and longitude lines used to mark boundaries of Texas and relative locations of places
- To introduce patterns of settlement, vegetation, rainfall, and topography on the landscape that define the regions of Texas

### TEKS Standards

#### *Grade 3 Social Studies*

(5) Geography. The student understands the concepts of location, distance, and direction on maps and globes.

#### *Grade 4 Social Studies*

(8) Geography. The student understands the location and patterns of settlement and the geographic factors that influence where people live. The student is expected to (C) explain the geographic factors such as landforms and climate that influence patterns of settlement and the distribution of population in Texas, past and present.

(21) Social studies skills. The student applies critical-thinking skills to organize and use information acquired from a variety of valid sources, including electronic technology. The student is expected to (C) organize and interpret information in outlines, reports, databases, and visuals, including graphs, charts, timelines, and maps.

**Suggested Grade Level:** 3<sup>rd</sup> – 5<sup>th</sup>

**Suggested Time:** 1-2 class periods

**Materials:** Giant Traveling Map of Texas, plastic chain, data sheet *Measuring Distances*

### Instructional Background

Three activities give students practice using symbols, colors, labels, and cartographic conventions with the Giant Traveling Map of Texas. **Activity A** = symbols. Symbols include *colors* such as tan for higher elevations, dark green for lower elevations, and marbled color for mountains. Symbols are also *points* (star for capital, varied sized dots for cities), *lines* (river channels or borders), and *polygons* (shapes of population areas or state parks). **Activity B** = scale/measurement. Determine distance of 50 miles using scale bar and chains. Measure distances in Texas in increments of 50 miles. **Activity C** = Latitude and Longitude. Identify parallels and meridians relevant to Texas history and boundaries.

## Student Activity/Assessment

### Activity A: Symbols

Play a game of “Twister” to demonstrate knowledge of colors, labels, and symbols on map

- 1) Divide class into teams, with 7-8 students per team. Use the map legends to introduce the symbol for town. Put a cone on the state capital. Invite one team at a time to scoot around the map to locate a town that begins with the first letter of his/her name. Then encourage students to locate rivers, lakes, mountains, towns, scale bar, compass rose, title, and color variations.
- 2) Check knowledge with 5-6 Twister directions that encourage students to stretch as far as possible in identifying symbols. See sample instructions below. Rotate the teams on the map every 3-5 minutes to keep everyone engaged.
- 3) Plan for a second round of “Twister” with more attention to detail. For example, instead of locating any river, direct students to locate the mouth of a river flowing into the Gulf. Reinforce cardinal directions with instructions such as, locate a city in the northwest part of the state; a city and a canyon north of the state capital; a major highway and an international boundary crossing point south of the state capital. Note the use of text by finding two cities that begin with the same letter but have labels with different size print. What colors show places that are NOT in Texas?

#### Sample: TWISTER GAME STATEMENTS

Right foot: on a label written with all capital letters.

Left hand: on a town that begins with the same letter as the student’s name

Left foot: on a boundary with another state or country

Right hand: on a body of water (lake, reservoir, gulf)

Right foot: hilly or mountainous area

Left hand/left foot: on two different colors of land

Right foot/left foot: Stand on a label with letters not in a straight line.

Right hand: on a symbol that shows direction

Left hand/right hand: two cities on the same river

### Activity B: Using Scale to Measure Distances

For this part of the *Legend-ary Skills* activity, pairs of students use plastic chains and the map scale to measure distances.

- 1) Lay the chain on top of the scale bar and put a marker, such as a piece of ribbon, on the chain link that is equal to 50 miles. Then, the partners will begin measuring distances on the map. What landmark is 50 miles from their current location? In what direction would a person travel to get there? Record results on the chart below. Replace any information in parentheses with actual information.
- 2) Then, look for places that are approximately 100 miles away, 200 miles, 350 miles, more than 500 miles. Record your findings. What is the greatest distance you can travel in a straight line from your

current location and still be in Texas? How far is it to the state capital, the nearest state border, the coastline, and the international border?

#### Sample Data Sheet: Using Scale to Measure Distances

Current Location (city, town, county)	Distance in 50 mile segments (50 X 4 = 200 miles)	Direction	Landmark (such as a town, intersection of rivers, roads, mountain, canyon, state boundary, state park)
<i>Current location</i>	<i>50 miles</i>	<i>(west)</i>	<i>(Landmark)</i>
	<i>(100 miles)</i>		
			State Capital
			Gulf of Mexico
			State border with another state
			International border with Mexico

#### Activity C: Latitude & Longitude

Our “Shape-ly State” has several important lines of latitude and longitude that define its borders. These lines are also part of the information on the map. They are marked on the edges. The numbers on the sides of the map such as  $32^{\circ} 30'$  (thirty-two degrees, thirty minutes) show *latitude*. The numbers on the top and bottom such as  $98^{\circ} 30'$  (ninety-eight degrees, thirty minutes) show *longitude*.

*Latitude and Longitude* lines are imaginary lines that go around the Earth. Latitude lines go around in the same way as the equator. Longitude lines go from North Pole to South Pole. Together they make a grid so we can locate any place on any map or globe.

- 1) For this activity, the class will need four chains. The first part of the activity is about *latitude*. Select one student to stand on the boundary between Texas and New Mexico at  $32^{\circ}$ . Have another student stand on the boundary between Texas and Louisiana at  $32^{\circ}$ . Students hold the chain at the boundary and lay the chain across the state at  $32^{\circ}$ . Here is the place where the boundary on the east goes north from the Sabine River to the Red River. On the west, it is part of the southern border of New Mexico. Can students identify at least five sites that are north of this latitude and five sites that are south of this latitude?

Use another chain to mark the most northern latitude of the state. What is the latitude number?

- 2) Next, identify two lines of *longitude* that are important in knowing about Texas. Choose 4 additional students to mark the longitude lines. Across the top and bottom of the map, students will find the marking for  $100^{\circ}$ . That is the eastern boundary of the Panhandle. To the west of  $100^{\circ}$  the climate becomes even drier, water is limited, scattered trees are small, and short prairie grasses feed fewer creatures. Mark this longitude line with a chain. Then, compare the number of towns to the west with the number of cities to the east. What pattern of settlement do students find?

Mark one more line of longitude - 103°. It forms most of the boundary with New Mexico. Check out the inset map of the United States. How many states west of 103° have mostly straight line boundaries based on longitude (and latitude)? Which states east of 103° (as far east as the Mississippi River) have mostly straight line boundaries? Make a list of those. Locate them on a blank outline map of the United States. (Available on the [TAGE website](#), under resources)

## Assessment

Use the torn out map from the *Shape-ly State* lesson to add dotted lines to show and label the four lines of latitude and longitude in this lesson. Label rivers that form boundaries and adjacent states. Locate the state capital with correct symbol.

- 1) What are some reasons the *cartographer (map maker)* put the small map of the United States on the Texas map?
- 2) Make comparisons by estimating which distance is greater (then check answer with actual measurements):
  - a. Austin to Oklahoma or to Mexican border
  - b. Mouth of Sabine River to Galveston or to Longview
  - c. El Paso to Brownsville or to Amarillo
  - d. Guadalupe Mountains to Enchanted Rock or to Chisos Mountains in Big Bend National Park

Lessons to Support the *Giant Traveling Map of Texas*

Name: \_\_\_\_\_

Current Location (city, town, county)	Distance in 50 mile segments (50 X 4 = 200 miles)	Direction	Landmark (such as a town, intersection of rivers, roads, mountain, canyon, state boundary, state park)