EVERYTHING IS BIG IN TEXAS: CITIES AND POPULATION

Purpose

- To identify and locate some of the largest cities in Texas (2010 Census Data)
- To recognize characteristics of patterns and describe the spatial arrangements of population in Texas
- To read large numbers and make comparisons by representing large numbers with useable units for comparison
- To compare the population of large Texas cities to the 20 largest cities in the world and the 20 largest cities in the United States

TEKS Standards

Grade 4 Social Studies
(6) Geography. The student uses geographic tools to collect, analyze, and interpret data. The student is expected to (A) apply geographic tools, including grid systems, legends, symbols, scales, and compass roses, to construct and interpret maps; and (B) translate geographic data, population distribution, and natural resources into a variety of formats such as graphs and maps.

Grade 7 Social Studies
(8) Geography. The student uses geographic tools to collect, analyze, and interpret data. The student is expected to (A) create and interpret thematic maps, graphs, charts, models, and databases representing various aspects of Texas during the 19th, 20th, and 21st centuries; and (B) analyze and interpret geographic distributions and patterns in Texas during the 19th, 20th, and 21st centuries.
(11) Geography. The student understands the characteristics, distribution, and migration of population in Texas in the 19th, 20th, and 21st centuries. The student is expected to (C) analyze the effects of the changing population distribution and growth in Texas during the 20th and 21st centuries and the additional need for education, health care, and transportation.

Grade Levels: 4th – 7th

Suggested Time: 1-2 class periods

Materials: Giant Traveling Map of Texas, approximately 200 large Lego bricks, (one brick =100,000 million people), world map for locating world cities; *Resource Population Charts*: #1 Largest cities in world, #2 Largest cities in the United States, #3 Largest cities in Texas (attached)

Instructional Background: The lesson begins by looking at major cities around the world. The focus then narrows the view to the United States and then to Texas cities. The structure notes the geographical hierarchy of continents, nations, states, and cities. It provides a perspective on the lesson. The teacher may select a limited number of places with particular relevance to the students' knowledge and experiences. The purpose of including world cities is to provide some context for learning rather than assessing students on knowledge of locations of world cities.

The World Population: Population of 20 Largest Cities in the World

Spatial Theme of Hierarchy: One way to look at population distribution patterns is by *continents.* North America has three of the largest cities; South America has two; Europe has none, Asia has 14; Africa has one; Australia has none; Antarctica has none. Locate these cities. Which continent has the most large cities?

Next level of the hierarchy, is to look at the *countrie*s within *continents.* There are approximately 200 countries in the world. The 20 largest cities are located in just 14 different countries. India has three, China has 3, United States and *Japan* each have two, and Indonesia, South Korea, Philippines, Pakistan, Brazil, Mexico, Egypt, Russia, Bangladesh, Argentina each has one. Locate these cities on a world map. What are the two most populated countries in the world? (China & India)

The next step in the hierarchy takes us to the level of *states*. For this lesson, we focus on the United States. Which states in the United States have the 20 largest cities? Texas has six; California has four. Locate them on a US map. Only one is located in each of the other 12 states represented on this list. 36/50 states do not have a city as large as El Paso (#19)

Continuing with the study of the spatial theme of hierarchy, the next level of the hierarchy looks at the *regions* within Texas that have the largest cities. For this lesson, we focus on just the top 12 cities.

Cities: Houston, San Antonio, Dallas, Corpus Christi, Austin, Garland, Arlington, Plano, Ft. Worth, Lubbock, El Paso, Laredo

Regions: a) Gulf Coastal Plains, b) Interior Lowlands, c)Prairie, Lakes, and Timbers, d) North Central Plains, e) High Plains, f) Hill Country and Plateaus, g) Big Bend (Basin & Range)

Student Activity/Assessment

1. Put a vinyl marker on each of these 6 large cities of Texas: Houston, San Antonio, Dallas, Austin, Fort Worth, El Paso
2. Divide the class into teams to build towers with the blocks to show the comparative populations within Texas urban areas.
3. Use the Legos to show population as a graphic display on the map. Let one Lego = 100,000 people. Here is an example of a city outside Texas: New York City has 8,175,000 people. Let's round that to eight million two hundred thousand. How many Legos are needed to build a tower to show its population? For our population towers: we will have 1 Lego = 100,000. But how do we determine the number of Legos to show 8,200,000?

   8,200,000 ÷ 100,000 per Lego = 82 Legos

   Seattle = 608,000. Let's round that to 600,000. Now, divide by 100,000. We need 6 Legos.

4. Look for patterns. In what region of Texas is each big city located? Which cities are east of IH-35? Which cities are west of IH-35? What physical features are near? What boundaries are near? In what ways are the cities connected to the history of Texas? Are the cities connected to one another? What other patterns can be found?

5. Next, put a vinyl spot on the site of the next six largest cities. Which are adjacent to the largest city towers? In what ways are they related to one another? Students can lie on the floor map to see the towers like a bar graph.
6. What is the order of cities from largest to smallest population? Which cities are located near one another? Which cities are more isolated? Which cities are located on or near a Texas boundary? Which regions of the state have the greatest population? The least population?
7. As an assessment, students can use graph paper to create a bar graph that shows the population of large Texas cities. One axis will have the regions/city names and one will have the population.

Extension

In the *Settlement of Texas* Towns lesson, students take a historical perspective on the population by recording census data about 20 Texas cities from 1850-2010. Students learn about old cities and newer cities, cities that no longer exist, and cities that have become very important today. Keep in mind the six large cities of Texas today.

Resource #1: Population of Largest World Cities, www.worldatlas.com/citypops.htm *(2015)*

1.Tokyo, Japan (37,126,000)	37 million
2.Jakarta, Indonesia (26,063,000)	26 million
3.Seoul, South Korea (22,547,000)	22million
4.Delhi, India (22,242,000)	22 million
5.Shanghai, China (20,860,000)	21 million
6.Manila, Philippines (20,767,000)	21 million
7.Karachi, Pakistan (20,711,000)	21 million
8.New York, USA (20,464,000)	20 million
9.Sao Paulo, Brazil (20,186,000)	20 million
10.Mexico City, Mexico (19,463,000)	19 million
11.Cairo, Egypt (17,816,000)	18 million
12.Beijing, China (17,311,000)	17 million
13.Osaka, Japan (17,011,000)	17 million
14.Mumbai (Bombay), India (16,910,000)	17 million
15.Guangzhou, China (16,827,000)	17 million
16.Moscow, Russia (15,512,000)	15 million
17.Los Angeles, USA (14,900,000)	15 million
18.Calcutta, India (14,374,000)	14 million
19.Dhaka, Bangladesh (14,000,000)	14 million
20.Buenos Aires, Argentina (13,639,000)	14 million

Resource #2: Population of 20 Largest Cities in the United States (2010 census)

City and State	Pop (est) 2015	Rounded off Population data	Number of blocks 1 Lego block = 100,000
1 New York, NY	8,175,000	8,200,000	82
2 Los Angeles, CA	3,792,000	3,800,000	38
3 Chicago, IL	2,695,000	2,700,000	27
4 Houston, TX	2,100,000	2,100,000	
5 Philadelphia, PA	1,526,000	1,500,000	
6 Phoenix, AZ	1,445,000	1,400,000	
7 San Antonio, TX	1,327,000	1,300,000	
8 San Diego, CA	1,307,000	1,300,000	13
9 Dallas, TX	1,197,000	1,200,000	
10 San Jose, CA	945,000	900,00	9
11 Austin, TX	790,000	800,000	
12 Jacksonville, FL	821,000	800,000	
13 San Francisco, CA	805,000	800,000	
14 Indianapolis, IN	820,000	800,000	8
15 Columbus, OH	787,000	800,000	
16 Ft. Worth, TX	741,000	700,000	
17 Charlotte, NC	731,000	700,000	
18 Detroit, MI	713,000	700,000	
19 El Paso, TX	649,000	600,000	
20 Seattle, WA	608,000	600,000	6

Resource #3: Population of Largest Cities in Texas, 2010 Census
(Texas is a BIG state in size and it has a BIG population)

Rank	Place name	2010 Census	Number of blocks 1 Lego block = 100,000
1	Houston	2,100,263	
2	San Antonio	1,327,407	
3	Dallas	1,197,816	
4	Austin	790,390	
5	Fort Worth	741,206	
6	El Paso	649,121	
7	Arlington	365,438	
8	Corpus Christi	305,215	
9	Plano	259,841	
10	Laredo	236,091	
11	Lubbock	229,573	
12	Garland	226,876	
13	Irving	216,290	
14	Amarillo	190,695	
15	Grand Prairie	175,396	
16	Brownsville	175,023	
17	McKinney	131,117	
18	Pasadena	149,043	
19	Frisco	116,989	
20	Mesquite	139,824	