March of time

from the Esri GeoInquiries™ collection for World Geography

WORLD GEOGRAPHY

Target audience – World geography learners	Time required – 15 minutes

Activity	Explore the spatial patterns of locations, growth, and change of the world's largest cities at different times during the past two millennia.
World Geography Standards	**C3: D2.Geo.8.6-8.** Analyze how relationships between humans and environments extend or contract spatial patterns of settlement and movement. **C3: D2.Geo.2.6-8.** Use maps, satellite images, photographs, and other representations to explain relationships between the locations of places and regions and the changes in their environmental characteristics.
Learning Outcomes	• Describe the locations and sizes of the world's largest cities over time. • Explain the ever-increasing pattern of growth among the world's urban populations in the past 2,000 years.

Map URL: http://esriurl.com/worldGeoInquiry1

⍰ Ask

Where were the earliest major cities of the world located?

→ Click the link above to launch the map.
→ With the Details button underlined, click the button, Show Contents.
→ Click the Geographic Lines layer to expand its legend.
? In which hemispheres are the 100 CE cities located? *[Northern and Eastern hemispheres with nine cities north of Tropic of Cancer]*
? Where are the cities located in relation to each other? *[Several are surrounded near the Mediterranean Ocean, but most are far from each other.]*
? Where are the cities located in relation to physical features? Why? *[They are near rivers and oceans in the temperate zone for easier transportation and food.]*

⍓ Acquire

What was the population range of the earliest cities of the world?

→ In the Contents pane, pause your pointer over the Top 10 Cities 100CE layer and click the Show Table button.
→ Click the Pop 100 column and choose Sort Descending.
→ Click the name of each city in the table, starting at the top, noting where they are highlighted on the map and their population.
? In 100 CE, which city had the largest population? *[Rome with a population of 450,000]*

🔍 Explore

How did location and population of major cities in 1000 CE and 1500 CE compare to 100 CE?

→ In the top-right corner of the table, click the X to close it.
→ In the Contents pane, check the Top 10 Cities 1000CE layer box to turn it on.
→ Open the layer's table and sort the POP 1000 column in descending order.
? What was the largest city in 1000 CE and its population? *[Cordoba, Spain, with a population of 450,000]*
? What is the pattern of the locations of the top cities in 1000 CE? *[They are near water bodies, in the northern temperate zone, and they are all different from 100 CE cities.]*
→ Repeat the steps in this section for the Top 10 Cities 1500 CE layer.
? What location patterns do you see during the 1500 CE era? *[They are near water bodies, in the northern temperate zone, and there are many different cities than 1000 CE.]*

more ▶

📋 Analyze

How did the location and population of major cities change in the last 500 years?

→ Turn on each of the layers for top ten cities in the years 1900, 1950, 2000, and 2005, and, using their tables, examine the population and location of each city in those eras.

? What happened to the geographic pattern of the largest cities starting in 1900 CE? *[More populous cities are south of the Equator and North American continent. By 2005, the most largest cities were in Asia, South America, and Mexico, with New York being the only city in the United States in the top 10.]*

✅ Act

Where will major cities of the world grow in the next 50 years?

? Can you predict where you believe the largest cities will grow in the next decades? *[Answers will vary.]*

→ Turn on the Population Density layer.

? Keeping population density in mind, where do you believe the largest cities are today and will be in the next several decades? *[Africa, India, and China]*

VIEW AND SORT A TABLE

- Tables are only available for certain map layers.
- In the Contents pane, pause your pointer over a layer and click the Show Table button that appears under the layer name.
- Click the field name and choose Sort Ascending or Sort Descending.

SELECT FEATURES IN A TABLE

- In the table, click a feature in the list to see it highlighted on the map.

Next Steps

DID YOU KNOW? ArcGIS Online is a mapping platform freely available to public, private, and home schools. A school subscription provides additional security, privacy, and content features. Learn more about ArcGIS Online and how to get a school subscription at http://www.esri.com/schools. THEN TRY THIS...

- Enrich the data in the map, exploring which types of occupations that the people in the population centers have.
- Explore the distance between rivers (buffers) and the locations of the world's most populated cities.

TEXT REFERENCES This GIS map has been cross-referenced to material in sections of chapters from these high school texts.

- *World Cultures and Geography by McDougal Littell*
- *My World Geography by Pearson*