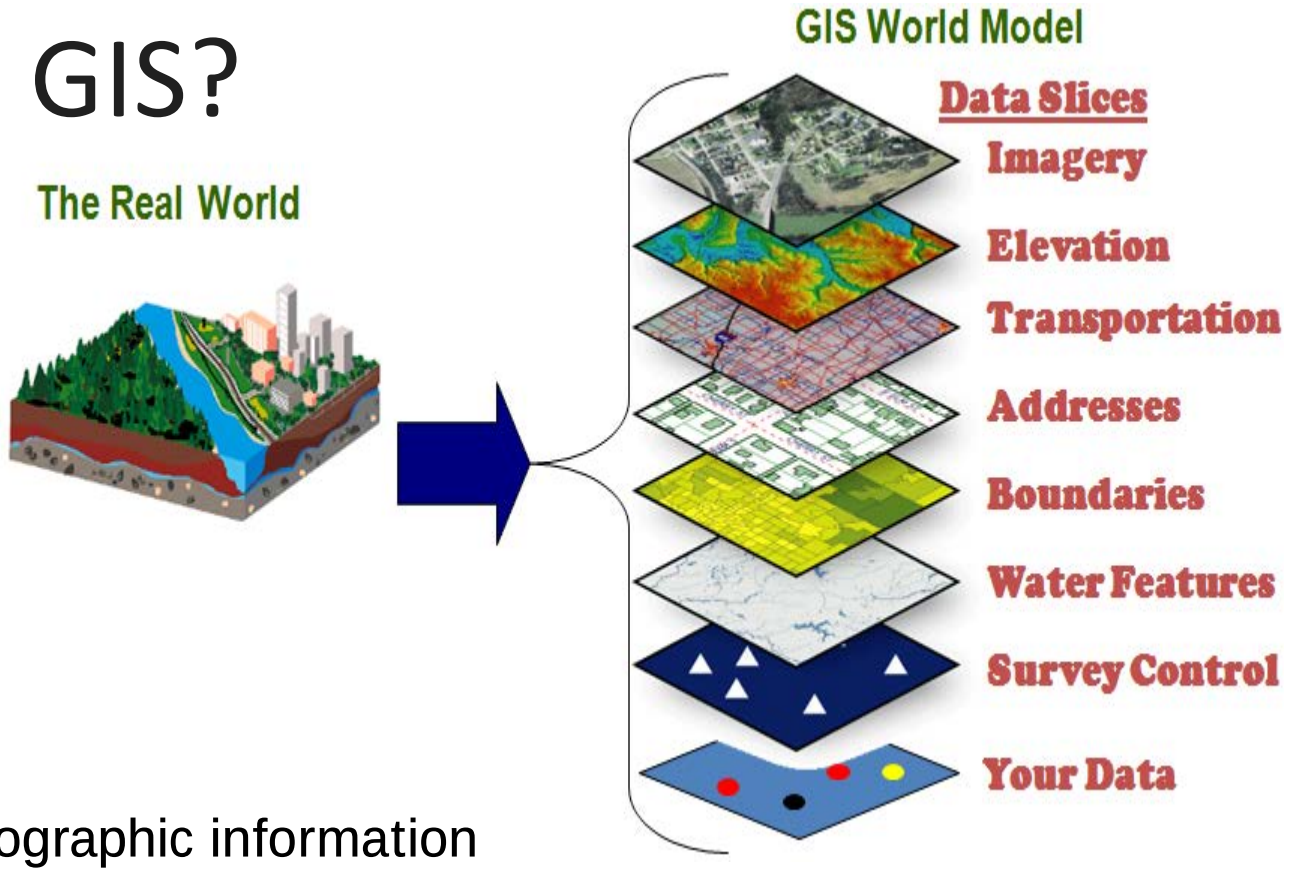
U.S. and World History GeoInquiries

Anita Palmer and Tom Baker

NCGE 2017

What is GIS?



- Layers of geographic information
- Visualize data and patterns, processes, and relationships
- Used in many disciplines (i.e., history, geography, and science)
- View data to understand current events

What are GeoInquiries?

- 15-Minute (more or less)
- Inquiry activities
- Designed for teacher to introduce map-based concepts found in commonly used textbooks
- Standards-based
- No login required

Esri GeoInquiries™ for schools

Where Can You Find GeoInquiries?

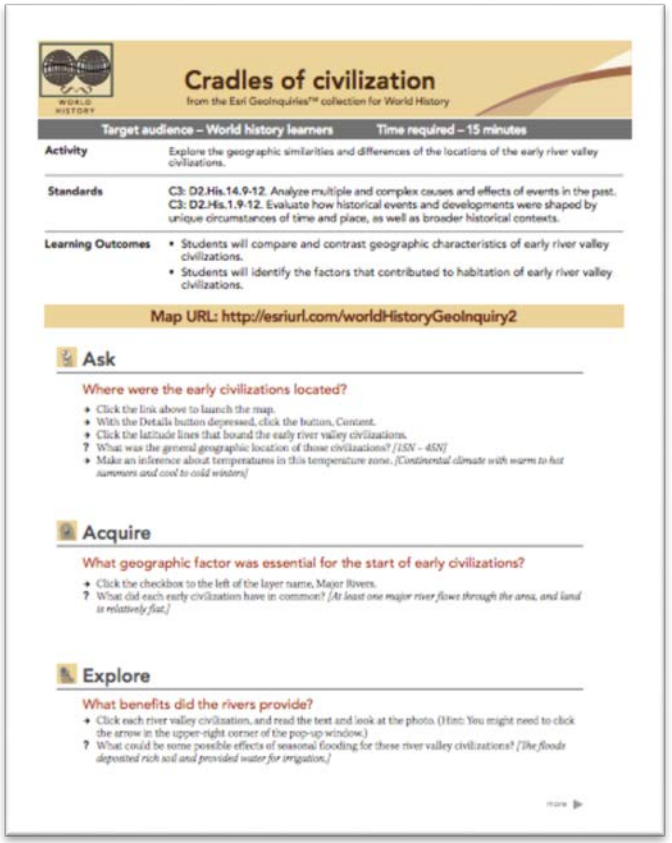
- http://esri.com/geoinquiries
- http://gisetc.com/geoinquiries/

World History GeoInquiries

- Cradles of Civilization
- Silk Roads
- Medieval Europe: Invasions
- The Crusades
- Trade and the Black Death
- Russian expansion to the sea
- Early European Exploration
- The Reformation
- The First European Industrial Revolution
- Latin American Independence
- Age of Napoleon
- Africa's bounty & borders
- Post WWI and the League of Nations
- African Independence
- Cooperation since 1945

Cradles of Civilization

http://esriurl.com/worldHistoryGeoInquiry2



Cradles of civilization

from the Esri GeoInquiries™ collection for World History

Target audience – World history learners **Time required – 15 minutes**

Activity	Explore the geographic similarities and differences of the locations of the early river valley civilizations.
Standards	C3: D2.His.14.9-12. Analyze multiple and complex causes and effects of events in the past. C3: D2.His.1.9-12. Evaluate how historical events and developments were shaped by unique circumstances of time and place, as well as broader historical contexts.
Learning Outcomes	• Students will compare and contrast geographic characteristics of early river valley civilizations. • Students will identify the factors that contributed to habitation of early river valley civilizations.

Map URL: http://esriurl.com/worldHistoryGeoInquiry2

Ask

Where were the early civilizations located?

- Click the link above to launch the map.
- With the Details button depressed, click the button, Content.
- Click the latitude lines that bound the early river valley civilizations.
- ? What was the general geographic location of those civilizations? *[15N - 45N]*
- Make an inference about temperatures in this temperature zone. *[Continental climate with warm to hot summers and cool to cold winters]*

Acquire

What geographic factor was essential for the start of early civilizations?

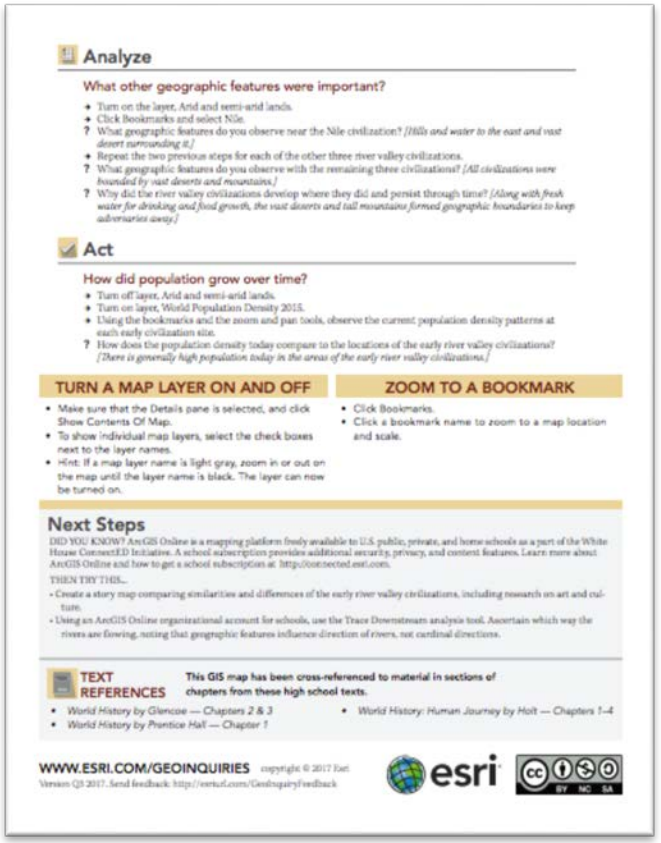
- Click the checkbox to the left of the layer name, Major Rivers.
- ? What did each early civilization have in common? *[At least one major river flows through the area, and land is relatively flat.]*

Explore

What benefits did the rivers provide?

- Click each river valley civilization, and read the text and look at the photo. (Hint: You might need to click the arrow in the upper-right corner of the pop-up window.)
- ? What could be some possible effects of seasonal flooding for these river valley civilizations? *[The floods deposited rich soil and provided water for irrigation.]*

more ▶



Analyze

What other geographic features were important?

- Turn on the layer, Arid and semi-arid lands.
- Click Bookmarks and select Nile.
- ? What geographic features do you observe near the Nile civilization? *[Hills and water to the east and vast desert surrounding it.]*
- Repeat the two previous steps for each of the other three river valley civilizations.
- ? What geographic features do you observe with the remaining three civilizations? *[All civilizations were bounded by vast deserts and mountains.]*
- ? Why did the river valley civilizations develop where they did and persist through time? *[Along with fresh water for drinking and food growth, the vast deserts and tall mountains formed geographic boundaries to keep adversaries away.]*

Act

How did population grow over time?

- Turn off layer, Arid and semi-arid lands.
- Turn on layer, World Population Density 2015.
- Using the bookmarks and the zoom and pan tools, observe the current population density patterns at each early civilization site.
- ? How does the population density today compare to the locations of the early river valley civilizations? *[There is generally high population today in the areas of the early river valley civilizations.]*

TURN A MAP LAYER ON AND OFF

- Make sure that the Details pane is selected, and click Show Contents Of Map.
- To show individual map layers, select the check boxes next to the layer names.
- Hint: If a map layer name is light gray, zoom in or out on the map until the layer name is black. The layer can now be turned on.

ZOOM TO A BOOKMARK

- Click Bookmarks.
- Click a bookmark name to zoom to a map location and scale.

Next Steps

DID YOU KNOW? ArcGIS Online is a mapping platform freely available to U.S. public, private, and home schools as a part of the White House ConnectED Initiative. A school subscription provides additional security, privacy, and content features. Learn more about ArcGIS Online and how to get a school subscription at: http://connected.esri.com.

THEN TRY THIS...

- Create a story map comparing similarities and differences of the early river valley civilizations, including research on art and culture.
- Using an ArcGIS Online organizational account for schools, use the Trace Downstream analysis tool. Ascertain which way the rivers are flowing, noting that geographic features influence direction of rivers, not cardinal directions.

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

- *World History by Glencoe — Chapters 2 & 3*
- *World History by Prentice Hall — Chapter 1*
- *World History: Human Journey by Holt — Chapters 1–4*

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Explore World History

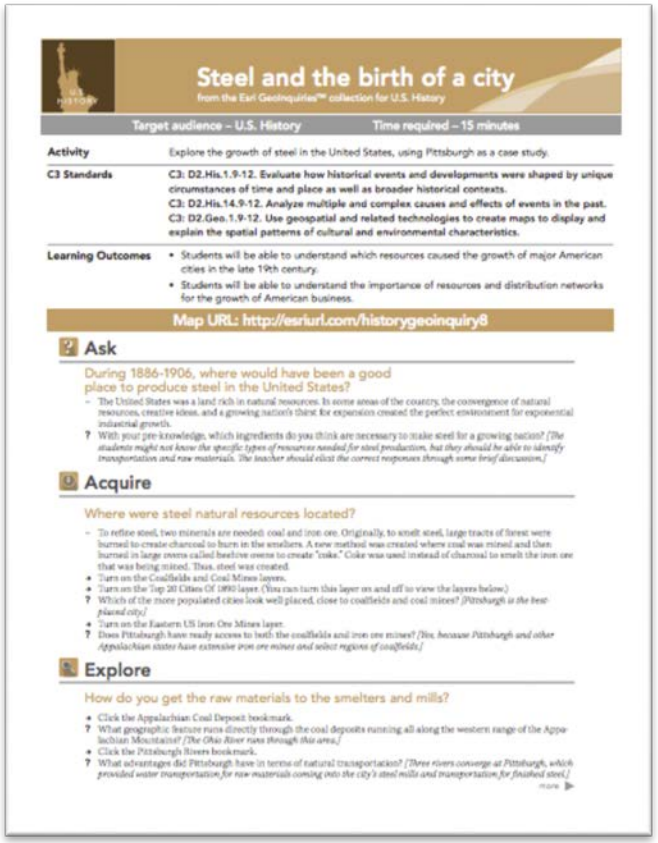
- Pick an Activity
- www.gisetc.com/geoinquiries

U.S. History GeoInquiries

- The Great Exchange
- The 13 Colonies – 1700s
- The War Before Independence (The American Revolution)
- The War of 1812
- Westward, ho! (Trails west)
- The Underground Railroad
- From Compromise to Conflict
- A nation divided: The Civil War
- Native American Lands
- Steel and the birth of a city (natural resources)
- World War I
- Dust Bowl
- A day that lived in infamy (Pearl Harbor)
- Operation Overlord – D-Day
- Hot spots in the Cold War

Steel and the Birth of a City

http://esriurl.com/HistoryGeoInquiry8



Steel and the birth of a city

from the Esri GeoInquiries™ collection for U.S. History

Target audience – U.S. History **Time required – 15 minutes**

Activity	Explore the growth of steel in the United States, using Pittsburgh as a case study.
C3 Standards	**C3: D2.His.1.9-12. Evaluate how historical events and developments were shaped by unique circumstances of time and place as well as broader historical contexts.** **C3: D2.His.14.9-12. Analyze multiple and complex causes and effects of events in the past.** **C3: D2.Geo.1.9-12. Use geospatial and related technologies to create maps to display and explain the spatial patterns of cultural and environmental characteristics.**
Learning Outcomes	• Students will be able to understand which resources caused the growth of major American cities in the late 19th century. • Students will be able to understand the importance of resources and distribution networks for the growth of American business.

Map URL: http://esriurl.com/historygeoinquiry8

Ask

During 1886-1906, where would have been a good place to produce steel in the United States?

– The United States was a land rich in natural resources. In some areas of the country, the convergence of natural resources, creative ideas, and a growing nation's thirst for expansion created the perfect environment for exponential industrial growth.

? With your pre-knowledge, which ingredients do you think are necessary to make steel for a growing nation? *[The students might not know the specific types of resources needed for steel production, but they should be able to identify transportation and raw materials. The teacher should elicit the correct responses through some brief discussion.]*

Acquire

Where were steel natural resources located?

– To refine steel, two minerals are needed: coal and iron ore. Originally, to smelt steel, large tracts of forest were burned to create charcoal to burn in the smelters. A new method was created where coal was mined and then burned in large ovens called beehive ovens to create "coke." Coke was used instead of charcoal to smelt the iron ore that was being mined. Thus, steel was created.

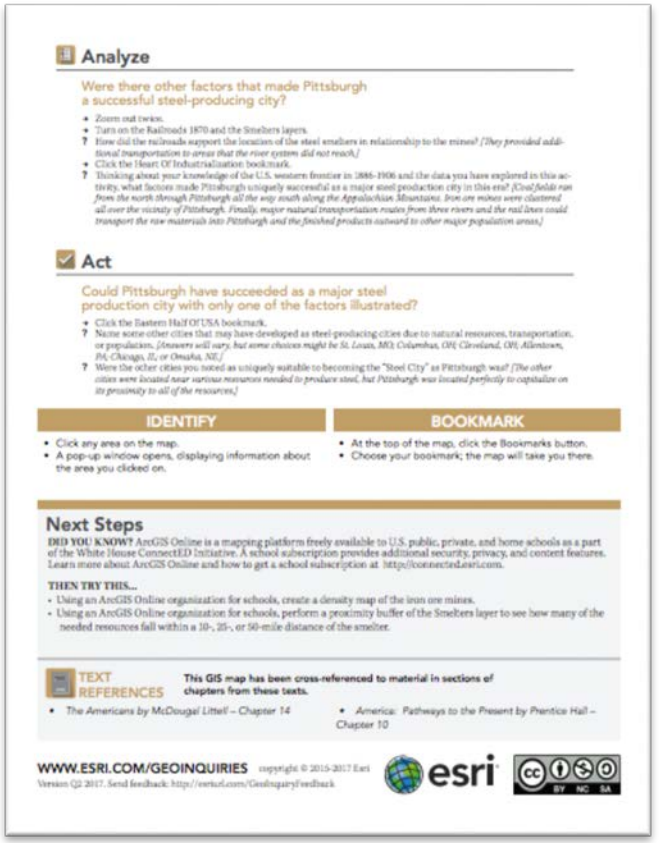
+ Turn on the Coalfields and Coal Mines layers.
+ Turn on the Top 20 Cities Of 1890 layer. (You can turn this layer on and off to view the layers below.)
? Which of the more populated cities look well placed, close to coalfields and coal mines? *[Pittsburgh is the best placed city.]*
+ Turn on the Eastern US Iron Ore Mines layer.
? Does Pittsburgh have ready access to both the coalfields and iron ore mines? *[Yes, because Pittsburgh and other Appalachian states have extensive iron ore mines and select regions of coalfields.]*

Explore

How do you get the raw materials to the smelters and mills?

+ Click the Appalachian Coal Deposit bookmark.
? What geographic feature runs directly through the coal deposits running all along the western range of the Appalachian Mountains? *[The Ohio River runs through this area.]*
+ Click the Pittsburgh Rivers bookmark.
? What advantages did Pittsburgh have in terms of natural transportation? *[Three rivers converge at Pittsburgh, which provided water transportation for raw materials coming into the city's steel mills and transportation for finished steel.]*

more ▶



Analyze

Were there other factors that made Pittsburgh a successful steel-producing city?

+ Zoom out twice.
+ Turn on the Railroads 1870 and the Smelters layers.
? How did the railroads support the location of the steel smelters in relationship to the mines? *[They provided additional transportation to areas that the river system did not reach.]*
+ Click the Heart Of Industrialization bookmark.
? Thinking about your knowledge of the U.S. western frontier in 1886–1906 and the data you have explored in this activity, what factors made Pittsburgh uniquely successful as a major steel production city in this era? *[Coalfields run from the north through Pittsburgh all the way south along the Appalachian Mountains. Iron ore mines were clustered all over the vicinity of Pittsburgh. Finally, major natural transportation routes from three rivers and the rail lines could transport the raw materials into Pittsburgh and the finished products outward to other major population areas.]*

Act

Could Pittsburgh have succeeded as a major steel production city with only one of the factors illustrated?

+ Click the Eastern Half Of USA bookmark.
? Name some other cities that may have developed as steel-producing cities due to natural resources, transportation, or population. *[Answers will vary, but some choices might be St. Louis, MO; Columbus, OH; Cleveland, OH; Allentown, PA; Chicago, IL; or Omaha, NE.]*
? Were the other cities you noted as uniquely suitable to becoming the "Steel City" as Pittsburgh was? *[The other cities were located near various resources needed to produce steel, but Pittsburgh was located perfectly to capitalize on its proximity to all of the resources.]*

IDENTIFY	BOOKMARK
• Click any area on the map. • A pop-up window opens, displaying information about the area you clicked on.	• At the top of the map, click the Bookmarks button. • Choose your bookmark; the map will take you there.

Next Steps

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THEN TRY THIS...

- Using an ArcGIS Online organization for schools, create a density map of the iron ore mines.
- Using an ArcGIS Online organization for schools, perform a proximity buffer of the Smelters layer to see how many of the needed resources fall within a 10-, 25-, or 50-mile distance of the smelter.

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

- *The Americans* by McDougal Littell – Chapter 14
- *America: Pathways to the Present* by Prentice Hall – Chapter 10

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Explore U.S. History

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Questions or Comments

- geoinquiries@esri.com
- anita@gisetc.com