



LEVEL

2

Patterns of Civilization

from the GeoInquiries™ collection for World History

Target audience – World history learners

Time required – 25 minutes

Activity	Explore and evaluate geographic land patterns of the early river valley civilizations.
Social studies Standards	C3:D2.His.14.9-12. Analyze multiple complex causes and effects of events in the past. C3:D2.Geo.6.9-12. Evaluate the impact of human settlement activities on the environmental and cultural characteristics of specific places and regions.
Learning Outcomes	<ul style="list-style-type: none">Use the area function to explore proportion of flat to mountainous land in early river valley settlements.Acquire data layers to enhance understanding of geographic land patterns.
Level 2 GeoInquiry Requirements	<ul style="list-style-type: none">A free school ArcGIS Online organization account.Instructors or students must be signed in to the account to complete this activity.Approximately 1 credits will be used per person in the completion of this activity as scripted.

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

Ask

What was the general topography like where early civilizations were located?

- Click the link above to launch the map.
- In the upper-right corner, click Sign In, and then use your ArcGIS Online organizational account to sign in.
- To the left of the map, widen the Details pane until you see the names of the buttons and click Content.
- Turn off all the layers by unchecking all the boxes except for Early River Valley Civilizations.
- If necessary, point to the Early River Valley Civilization layer name to see the available options.
- Click the More Options (ellipses) button and choose Remove Pop-up to temporarily disable the pop-ups for this layer.
- Review the Add A Data Layer ToolTip on the next page, and then use those steps to search for **elevation** and add the Terrain: Elevation Tinted Hillshade layer by Esri to your map.
- ? Looking at the map with this added layer, what did the general topography look like in each civilization?
[A combination of flat to higher elevation]

Explore

What were elevations in meters like in each civilization?

- Turn on the Major Rivers layer.
- Zoom in to and click the green areas at the mouth of the river in each civilization. *(Note: You may need to click the right arrow on the pop-up to see the information about the land and not the river.)*
- ? What is the elevation of the land at the mouth of each river? *[Answers will vary but should be close to 0.00 meters.]*
- Click any brown or white areas in each civilization to find the elevation at those points.
- ? What is the highest elevation that you found in each civilization? *[Answers will vary: Egyptian: 600+ meters; Mesopotamian: 2,500+; Indian: 5,700+ meters; Chinese: 2,700+ meters]*
- ? With elevation in mind, where would it have been most desirable for early civilizations to live? *[In most cases, the lower-elevation lands]*

Acquire

How large were the early river valley civilizations?

- Enable the Early River Valley Civilizations pop-ups by clicking the More Options button and then choosing Enable Pop-ups.
- Review the Configure Area-Specific Pop-ups ToolTip on the next page and use the Early River Valley Civilizations layer to perform these steps.

more ►



Acquire (cont'd)

- At the top of the Custom dialog box, next to Custom, click Edit, update the name to **Civilization Area**, and then click Save.
- In the dialog box, click OK, and then in the Configure Pop-up pane, click OK to save the pop-up configuration.
- Click one of the early civilizations and scroll down the pop-up to view the area computation that you just configured.
- ? What is the approximate area in square meters of the Chinese civilization? [*925,900,332,846 square meters*]



Analyze

Where were the flat and mountainous geographies located?

- Zoom in to the Chinese civilization.
- Click the Measure tool, ensure that the Area tool is chosen, and then click the down arrow and choose Sq Meters.
- Click multiple times around what is in your estimation a shape that encompasses the flattest area, and then double-click to complete your measurement.
- ? In the Measurement Results section, how many square meters is the area that you drew? [*Answers will vary but may be close to 148,621,715,000 square meters*]



Act

What proportion of the civilizations were flat as opposed to mountainous?

- Divide the total square meters on the pop-up by the square meters that you measured in the previous step.
- ? What percentage of this civilization was flat, habitable land? [*Need answer here.*]
- Repeat the process of measuring flat, habitable land in the remaining early civilization.
- ? Which civilization had the largest amount of flat, habitable land? [*Answers will vary depending on which areas that the students chose to measure.*]

ADD A DATA LAYER

- Above the Contents pane, click Add and choose Browse Living Atlas Layers.
- Use the search field to search for available layers.
- When you have found a layer that you would like to add to your map, in the lower-right corner of the layer result, click the Add (+) button.

CONFIGURE AREA-SPECIFIC POP-UPS

- In the Contents pane, point to a layer, click the More Options (ellipses) button, and choose Configure Pop-up.
- In the Configure Pop-up pane, scroll down to the Attribute Expressions section and click Add.
- In the Custom dialog box, click the Functions tab, and then click Area to create an expression.

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...

- In the Contents pane, under the new population layer, click the More Options (ellipses) button and choose Configure Pop-up.
- Add a new Column Chart exactly as you did in the activity, but check the Normalize By box and choose Pop_Cntry.



TEXT REFERENCES

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

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