GEOGRAPHY MODULE

2

GEOGRAPHY MODULE OVERVIEW

SKILL FOCUS
Map and Data Analysis; Scale Analysis

CONTENT
Site and Situation

DAY 1

What is the Site and Situation of Korea?

CLASS ACTIVITY
Understanding the Concepts of Site and Situation
The module begins with an overview and introduction to the concepts of site and situation. Students then analyze the geography of Korea through a series of documents. The analysis of the documents leads students to be able to evaluate the site and situation of Korea. Data analysis skills are addressed through a guided site and situation document analysis activity.

CHECK FOR UNDERSTANDING
Exit Ticket: Students evaluate which is more important: site or situation.

DAY 2

How Can Changing the Scale Change Perceptions of Site and Situation?

CLASS ACTIVITY
Examining the Impact of Changes of Scale
Students will analyze how changing the scale from the national level to local or global levels impacts site and situation, and will answer the essential question: How can changing the scale change perceptions of site and situation?

CHECK FOR UNDERSTANDING
Exit Ticket: Students use their knowledge of site and situation to describe places at different scales.

DAY 3

Assessment

Ideal Place Characteristics
Now that students have explored site and situation at a variety of scales, students will craft their own criteria for an "ideal" site and situation.

GEOGRAPHY MODULE SOURCES

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DAY 2

BASED ON A 60-MINUTE CLASS

How Can Changing the Scale Change Perceptions of Site and Situation?

OVERVIEW

Students will analyze how changing the scale from the national level to local or global levels impacts site and situation and will answer the essential question: How can changing the scale change perceptions of site and situation?

MATERIALS NEEDED:

IN CLASS ACTIVITIES

▶ Activity 1 Photographs of the Taj Mahal (p. 126)

▶ Activity 1 Handout: the Impact of Scale of Analysis, Practice (p. 127)

▶ Activity 2 Documents 1-8 (pp. 130-133)

▶ Activity 2 Handout: Scale of Analysis (p. 134)

▶ Activity 3 Handout: Sorting Documents by Scale of Analysis (p. 136)

▶ Activity 4 Exit Ticket (p. 137)

TEACHER ANSWER KEYS

▶ Activity 2 Handout: Scale of Analysis (p. 138)

▶ Activity 4 Exit Ticket Sample Answers (p. 140)

SEQUENCE OF INSTRUCTION

WARM UP/INTRODUCTION (15 MINUTES)

TAJ MAHAL PICTURE ANALYSIS AND MAPS OF POVERTY AT DIFFERENT SCALES

▸ Display the two photographs of the Taj Mahal for the whole class.

  ▷ Students brainstorm as many differences as they can between the two photographs.

  ▷ Ask students what is different about the two photographs? (One is taken at a closer range than the other, and one shows surrounding areas, etc.).

▸ Explain: When the scale of analysis is changed, you zoom more or zoom less into the data. The scale of analysis is the level of data aggregation (the unit that we are using to examine one or more places).

▸ Ask: How does your description of the Taj Mahal differ depending on which image is used?

  ▷ One image makes the Taj Mahal seem isolated, while the other shows many people at the Taj Mahal, so a student might think that it is surrounded by many buildings.

  ▷ Explain that the same thing happens with geographic data: displaying data at a more localized or more globalized level also impacts the conclusions we draw from the data.

▸ Display or distribute the three maps on the Practice Handout on the Impact of Scale of Analysis, one at a time, and ask students, in pairs, to examine the scale of the map, and the scale of analysis, and to evaluate the statement "The United States does not have poverty."

  ▷ Practice Map 1 (The Share of the Population Living in Extreme Poverty in Different Countries, p. 127):

   • *Scale of the Source:* Global scale (a world map)

   • *Scale of Analysis:* National/country scale (the data is broken down into country units)

   • *Evaluation of the statement* "The United States does not have poverty": The United States does not have many people, if any, living in extreme poverty. So on the basis of this map alone, one might evaluate this statement to be true to the extent that the United States has less extreme poverty than other countries.

  ▷ Practice Map 2 (The 2017 Poverty Rate in the United States, p. 128):

   • *Scale of the Source:* National/country scale (map of the United States)

   • *Scale of Analysis:* Local or state (the data is broken down into subnational units- states)

   • *Evaluation of the statement* "The United States does not have poverty": It is evident that some areas in the United States have poverty rates exceeding 18%. So using this map alone, one might evaluate the statement as false, especially for the southern portion of the country.

▷ Practice Map 3 (The Poverty Rate in Different U.S. Counties, 2013-2017, p. 129):

- *Scale of the Source:* National/country scale (map of the United States)

- *Scale of Analysis:* Local or counties (the data is broken down into subnational units- counties)

- *Evaluation of the statement* "The United States does not have poverty": It is evident that, within the northeast portions of the United States that seemed to lack poverty on the previous map, there is poverty. Likewise there are counties in the southern states that have low levels of poverty. So using this map alone, one might evaluate the statement as false and see that the division is not just a North/South divide.

▷ Optional Concluding Question: Which map is best?

- There is no map or scale of map that is superior to the others. Judging which is best depends on the question asked and what you are trying to see and/or do with the geographic data.

TEACHER NOTES

Students often have difficulty understanding that the scale of analysis is the level at which data is aggregated. For example, a map of the world may have data broken down at the country level, and the scale of analysis in that case would not therefore be global, but instead national.

Students often view data as "biased," or even incorrect/flawed, but instead we need to emphasize that our conclusions may change based on the level of information. While maps, charts, etc. are often viewed as neutral, it is important for students to understand that the creator of the source has made decisions about what to show and how to show it, including the scale of the data. As a result, creators of such material can have a significant influence on the conclusions we logically draw from the source. A seminal work related to this concept is the book *How to Lie with Maps* by Mark Monmonier.*

*Mark Monmonier, *How to Lie with Maps* (Chicago: University of Chicago Press, 2018).

CLASS ACTIVITY 2 OF 4: EXAMINING KOREA'S SITE AND SITUATION IN THE GLOBAL CONTEXT AND EXAMINING SEOUL'S SITE AND SITUATION IN KOREA

CLASS ACTIVITY (35 MINUTES)

SCALE ANALYSIS HANDOUT

▶ In pairs, have students examine Documents 1-8 (pp. 130-133). Each student should individually complete the Handout on the Scale of Analysis (p. 134).

   ▷ The pair will brainstorm additional documents and information that would be helpful in determining Seoul's site and situation in Korea, and Korea's site and situation in the global context.

▶ Form new pairs of students and have each pair develop a synthesis statement that describes Korea's site and situation in the context of the world.

   ▷ The pair then develops a synthesis statement that describes Seoul's site and situation.

For suggested answers, see the Teacher Key to the Scale of Analysis Handout (p. 138).

> **TEACHING TIP**
> If time allows (or as an extension activity), have students search the Internet for actual additional documents to add to the document set, which can build on their answers to the question in the Scale of Analysis Handout.

CLASS ACTIVITY 3 OF 4: SORTING DOCUMENTS BY SCALE OF ANALYSIS

CLOSING ACTIVITY (10 MINUTES)

▶ Have students, in groups of 4, sort the documents from the smallest scale of analysis to the largest scale of analysis and identify the documents they see as most valuable in describing South Korea and/or Seoul.

   ▷ Note: some documents have the same scale of analysis so they should be placed together.

   ▷ Students can sort the documents using the Handout on Sorting Documents by Scale of Analysis (p. 136).

CLASS ACTIVITY 4 OF 4: CHECK FOR UNDERSTANDING

EXIT TICKET (10 MINUTES)

Students complete an Exit Ticket (p. 137) answering the following questions:

▶ How does the site and situation of the United States compare with that of South Korea?

▶ How does the site and situation of Washington, DC compare with that of Seoul in the context of their respective countries?

Encourage students to support their answers with appropriate evidence.

For suggested answers, see the Teacher Key to the Exit Ticket Sample Answers (p. 140).

IN-CLASS ACTIVITY MATERIALS

The Taj Mahal and Its Surroundings

Source: Wikimedia Commons, Jakub Halun. https://commons.wikimedia.org/w/index.php?curid=87482201

The Taj Mahal

Source: Wikimedia Commons, Asitjain. https://commons.wikimedia.org/w/index.php?curid=21455975

PRACTICE MAP 1

The Share of the Population Living in Extreme Poverty in Different Countries

Source: Our World in Data (using World Bank Data). https://ourworldindata.org/grapher/share-of-the-population-living-in-extreme-poverty?region=World

Share of population in extreme poverty, 2017

The share of individuals living below the 'International Poverty Line' of 1.90 international-$ per day.

| No data | 0% | 0.1% | 0.3% | 0.5% | 1% | 3% | 5% | 10% | 30% | 50% | 100% |
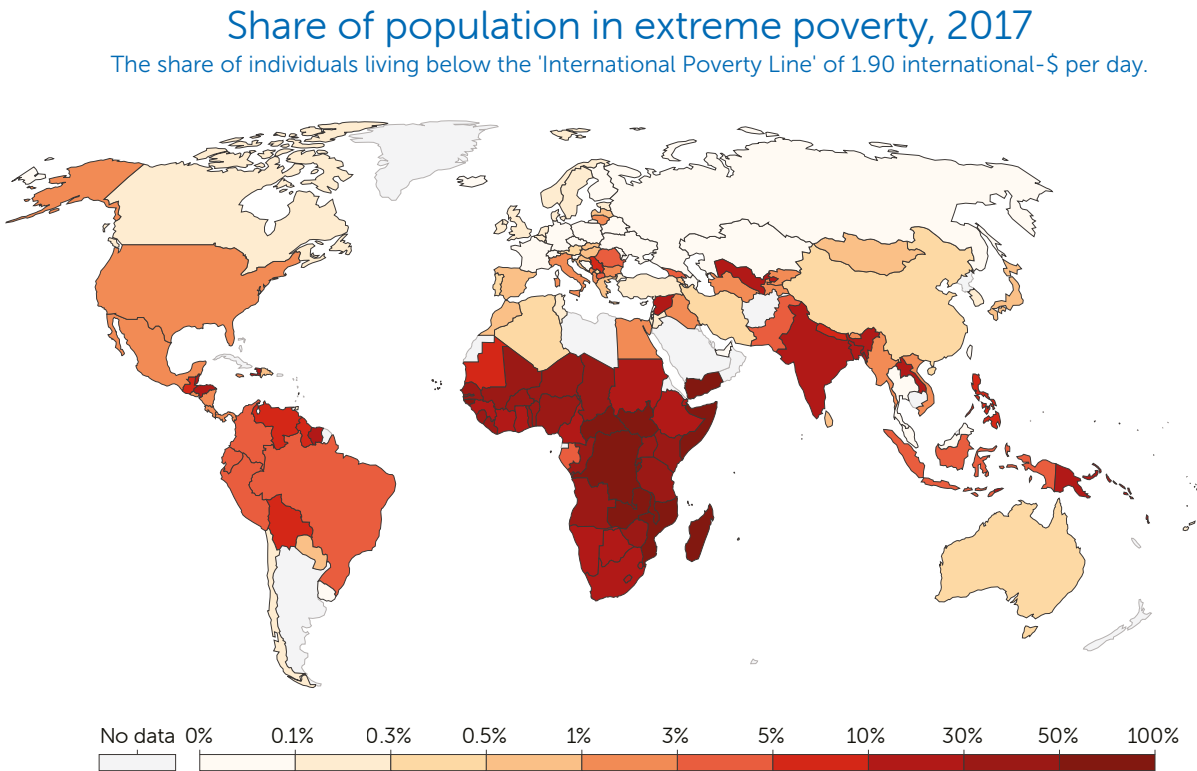
Source: World Bank PovcalNet   OurWorldInData.org/extreme-poverty   • CC BY

Note: Figures relate to household income or consumption per person, measured in international-$ (in 2011 PPP prices) to account for price differences across countries and inflation over time.
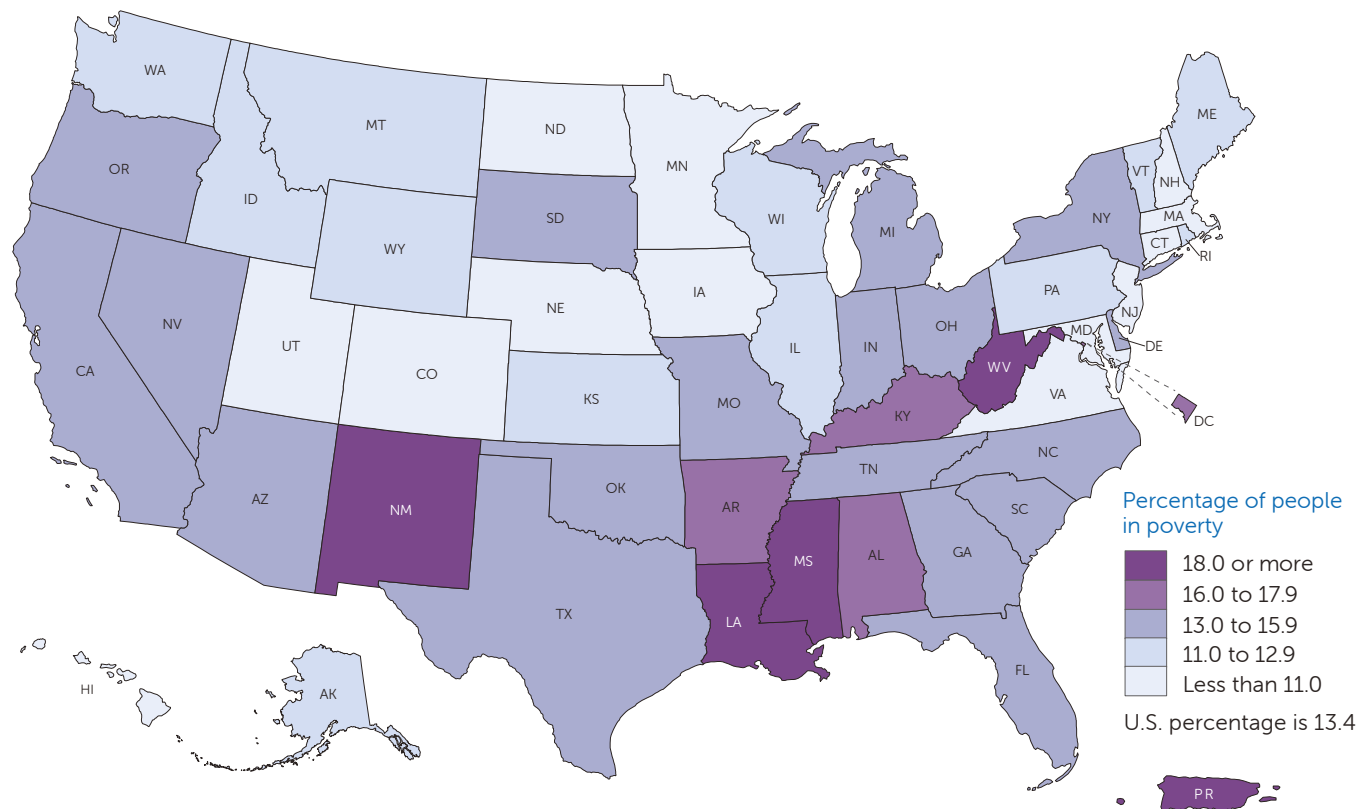
What is the scale of the map? (global, regional, national, local)	
What is the scale of analysis? (global, regional, national, local)	
Evaluate the statement, based on this map alone: "The United States does not have poverty."	

The 2017 Poverty Rate in Different States of the United States

Source: U.S. Census Bureau. https://www.census.gov/library/visualizations/2018/comm/acs-poverty-map.html

2017 Poverty Rate in the United States

Percentage of people in poverty

- 18.0 or more
- 16.0 to 17.9
- 13.0 to 15.9
- 11.0 to 12.9
- Less than 11.0

U.S. percentage is 13.4

Note: U.S. percentage does not include data for Puerto Rico.

Source: 2017 American Community Survey, 2017 Puerto Rico Community Survey. www.census.gov/acs

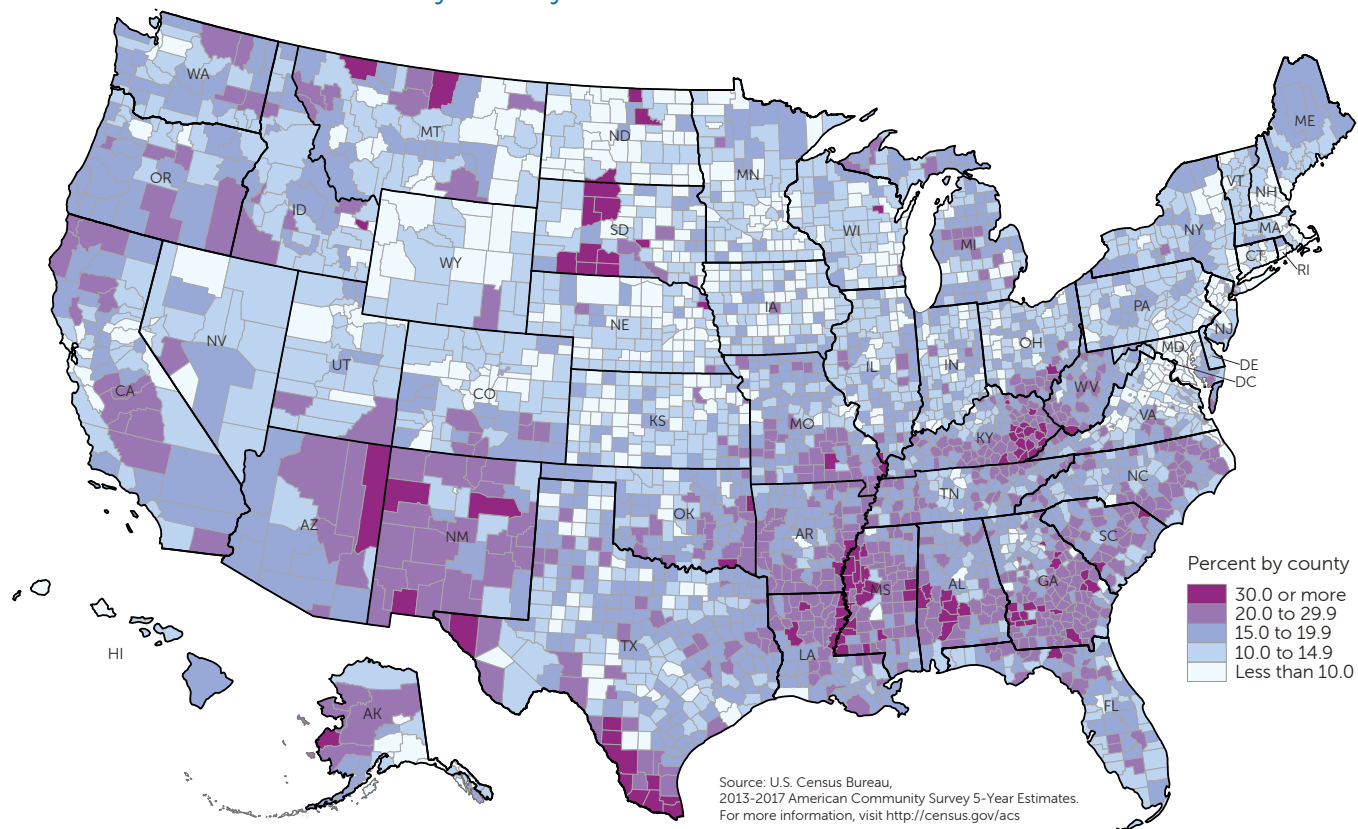|	
What is the scale of the map? (global, regional, national, local)	
What is the scale of analysis? (global, regional, national, local)	
Evaluate the statement, based on this map alone: "The United States does not have poverty."	

The Poverty Rate in Different U.S. Counties, 2013-2017

Source: U.S. Census Bureau. https://www.census.gov/library/visualizations/2018/comm/acs-5yr-poverty-all-counties.html

American Community Survey 5-Year Estimates
County Poverty Rate for the United States: 2013-2017

Percent by county

- 30.0 or more
- 20.0 to 29.9
- 15.0 to 19.9
- 10.0 to 14.9
- Less than 10.0

Source: U.S. Census Bureau,
2013-2017 American Community Survey 5-Year Estimates.
For more information, visit http://census.gov/acs

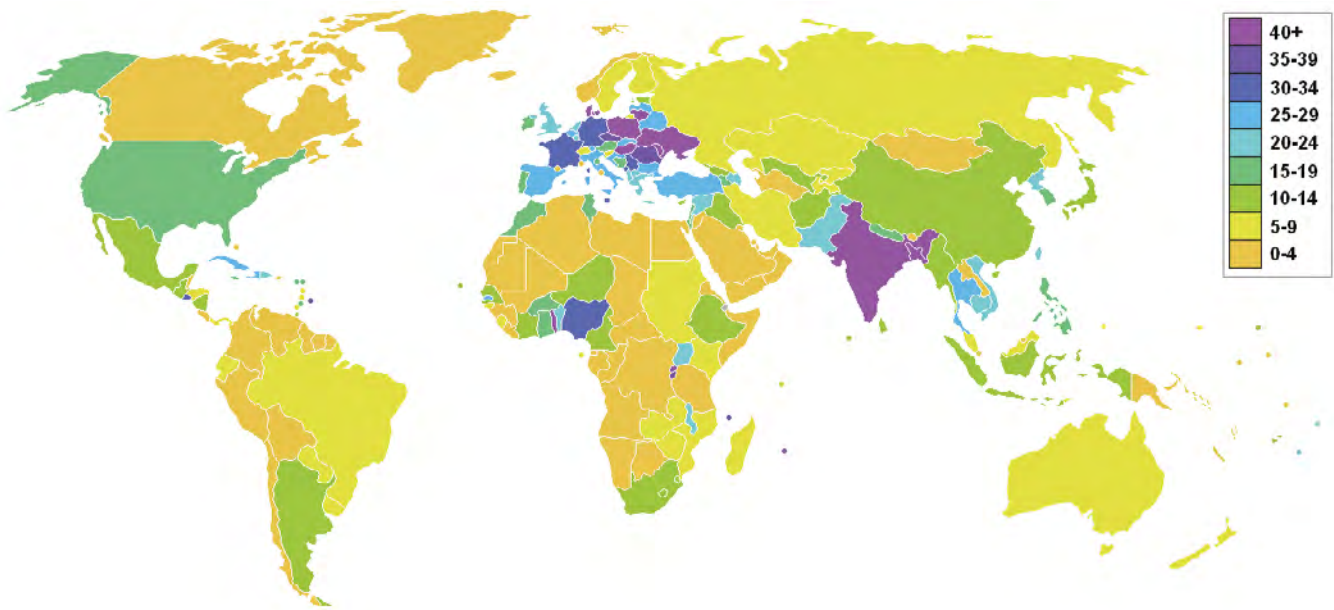|	
What is the scale of the map? (global, regional, national, local)	
What is the scale of analysis? (global, regional, national, local)	
Evaluate the statement, based on this map alone: "The United States does not have poverty."	

Percentage of Arable Land Worldwide

Source: Wikimedia Commons. https://upload.wikimedia.org/wikipedia/commons/8/85/Arable_land_percent_world.png
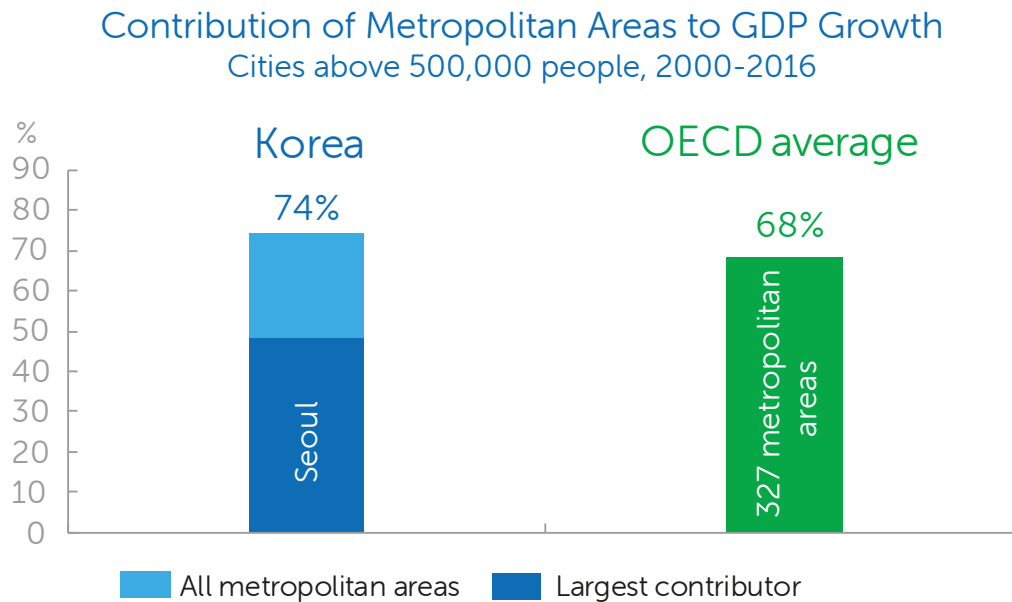
Global Map of Shipping Routes

Source: Wikimedia Commons. https://upload.wikimedia.org/wikipedia/commons/3/39/Shipping_routes_red_black.png
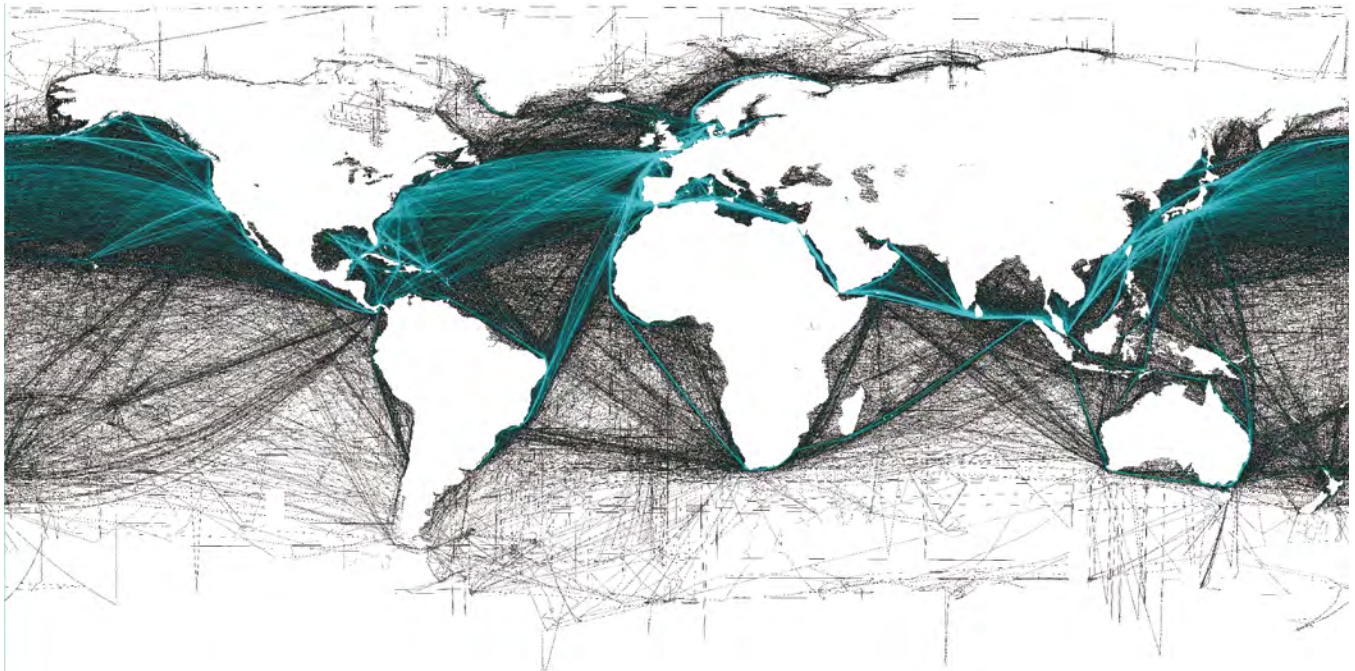
Differences in the Contribution of Metropolitan Areas to GDP Growth: South Korea and the OECD Average

Source: Organization for Economic Cooperation and Development. https://www.oecd.org/cfe/KOREA-Regions-and-Cities-2018.pdf

Contribution of Metropolitan Areas to GDP Growth
Cities above 500,000 people, 2000-2016

Korea 74%
OECD average 68%

Seoul — 327 metropolitan areas

■ All metropolitan areas ■ Largest contributor

DOCUMENT 4
Population of the Top Ten Cities in South Korea

Source: World Population Review. https://worldpopulationreview.com/countries/cities/south-korea

Name	2020 Population
Seoul	10,349,312
Busan	3,678,555
Incheon	2,628,000
Daegu	2,566,540
Daejeon	1,475,221
Gwangju	1,416,938
Suwon	1,242,724
Goyang Si	1,073,069
Seongnam Si	1,031,935
Ulsan	962,865

DOCUMENT 5

World Map of Regional Organizations

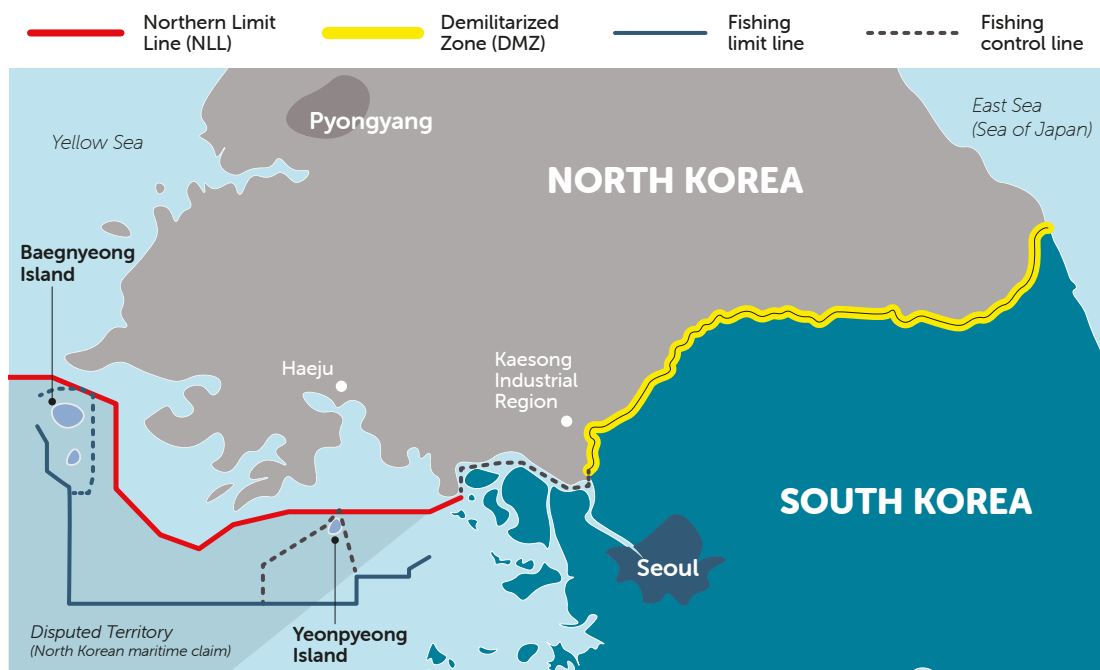Source: Wikimedia Commons. https://upload.wikimedia.org/wikipedia/commons/a/a2/Regional_Organizations_Map.png
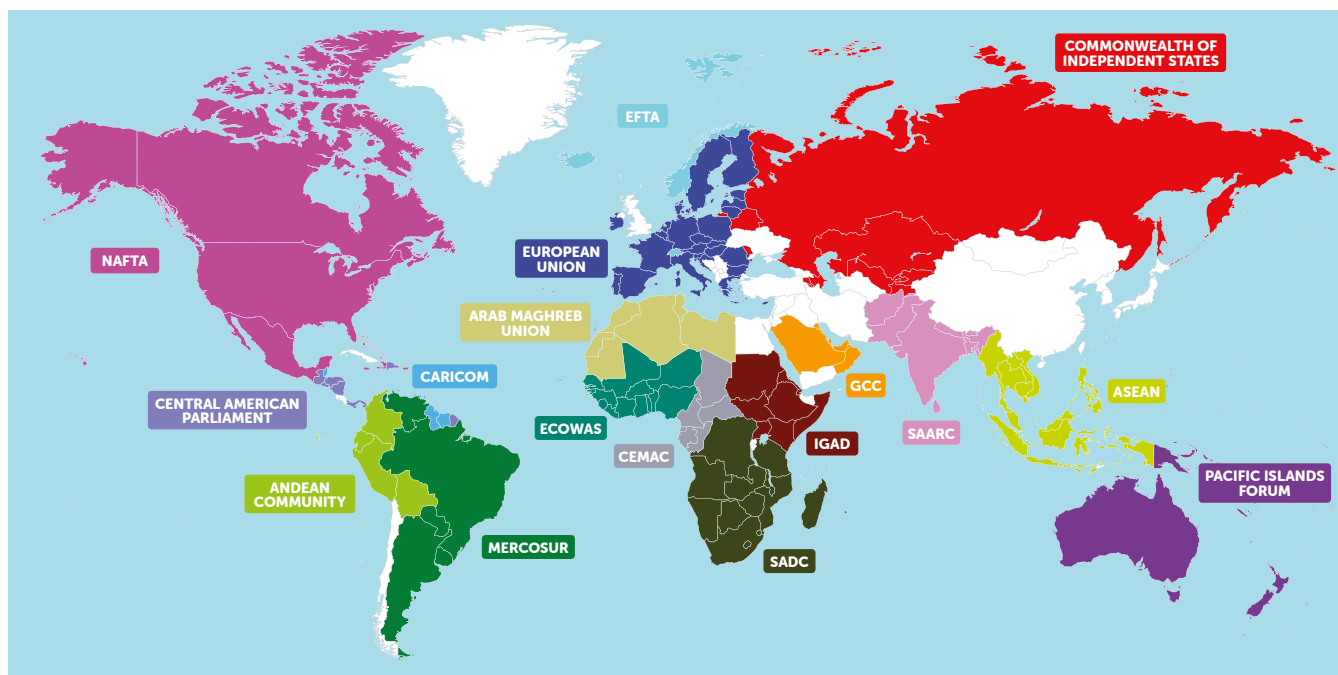
DOCUMENT 6

Disputed Sea Border between North and South Korea

The Northern Limit Line, drawn up by the U.S.-led United Nations in 1953, is one of the most serious flashpoints for conflict on the Korean Peninsula. North Korea warships and fishing boats routinely sail over the line, which has led to a spate of sea battles and artillery exchanges over the last 15 years.
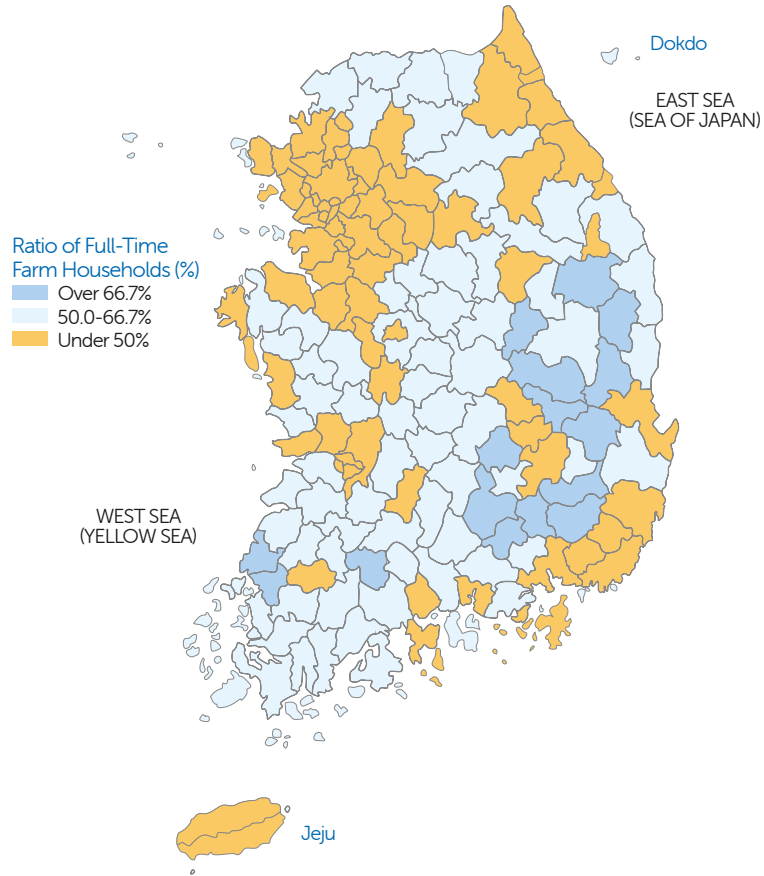
Source: Reuters. https://www.pri.org/stories/2015-08-20/brief-history-border-conflict-between-north-and-south-korea

Percentage of Farm Households by Province, South Korea, 2010

Source: National Atlas of Korea, http://www.nationalatlas.ngii.go.kr/us

Ratio of Full-Time Farm Households (%)
- Over 66.7%
- 50.0-66.7%
- Under 50%

Dokdo

EAST SEA (SEA OF JAPAN)

WEST SEA (YELLOW SEA)

Jeju

DOCUMENT 8
Seoul at Night

Source: Wikimedia Commons, https://upload.wikimedia.org/wikipedia/commons/0/03/Seoul_at_night.jpg

HANDOUT: SCALE OF ANALYSIS

Directions: Fill out the chart below. Note that the scale of the source and the scale of analysis may be different. For example, a map of the world may break data down at the country (national) level. Use the following scales:

- **Local**: at the subnational level; provinces, counties, zip codes, cities, etc.
- **Regional**: at the level of multiple countries; world regions, supranational organizations, etc.
- **National**: at the country level.
- **Global**: at the level of the entire world.

In the Korea/Seoul Column, determine if the resources show the information in the context of Korea as part of the world or the context of Seoul as part of Korea:

- The role of the city of Seoul in the context of South Korea, or
- The role of the country of South Korea in the context of the world

Source #	Scale of the Source	Scale of Analysis	Korea or Seoul?	How does this source relate to site and situation?
1				
2				
3				
4				
5				
6				
7				
8				

What other documents/information would be helpful in indicating the site and situation of Korea and/or Seoul?

Based on the documents, summarize the site and situation of Korea in the context of the world.

Based on the documents, summarize the site and situation of Seoul in the context of Korea.

HANDOUT: SORTING DOCUMENTS BY SCALE OF ANALYSIS

Place Documents 1-8 on the continuum below by noting the document number.

Largest Scale
of Analysis

Smallest Scale
of Analysis

The most valuable document in describing South Korea and Seoul:

South Korea	Seoul

EXIT TICKET

Use your knowledge of site and situation to describe each place.

National Scale of Analysis	
Describing South Korea	**Describing the United States**
Site: Situation:	Site: Situation:

Now that you have described each, answer the following question:

How does the site and situation of the United States compare with that of South Korea?

Local Scale of Analysis
Describing Seoul
Site: Situation:

Thinking of Seoul's site and situation (that you explored in the documents), describe its significance to South Korea. For example, in the United States, New York City is the largest city in terms of population and acts as an economic center, but Washington, D.C. is the capital city.

TEACHER KEY: SCALE OF ANALYSIS

Note: In the last column, there could be many possible answers to the question.

Source #	Scale of the Source	Scale of Analysis	Korea or Seoul?	How Does This Source Relate to Site and Situation?
1	Global (world map)	National (divided by country)	Korea	This source shows that South Korea has a relatively small percentage of arable land. It relates to site because land quality is a site factor.
2	Global (world map)	Local (deals with specific ship-ping points)	Both	This source shows the shipping connections that link locations and is therefore more related to situation.
3	National (bar chart of Korean GDP growth)	Local (provides specific infor-mation on Seoul)	Seoul	This bar chart is at the national scale, but the scale of anal-ysis reflects a local scale with specific information on Seoul. This chart relates more to situation because it indi-cates that Seoul is key to the GDP growth of Korea as a whole, which reflects interactions between places.
4	National (a chart that shows the most populous cities in South Korea)	Local (data is broken into city units, not the population of Korea as a whole)	Seoul	This source shows the population of cities within Korea, showing that Seoul is, by far, the most populous city. This can be seen as both a site issue and a situation issue. A large population suggests that there are positive site factors to lead to such large urban development. Because of the importance of migration as a cause of large urban populations, especially within South Korea, the chart also relates to situation.
5	Global (world map)	Regional (the map shows world regional supranational organization members)	Korea	This source shows that South Korea, despite being connected to the world economically (as shown in Document 2) is not part of any of the listed supranational organizations. This relates primarily to the situation of South Korea.
6	Regional or National map (shows the Korean penin-sula with coun-try borders)	National (data is focused on country sea borders)	Korea	This source focuses on disputed sea borders (not the DMZ, even though it does appear on the map). The border dispute is between two countries and reflects their inter-actions, so it is more related to situation.
7	National (map shows South Korea)	Local (data shows by province)	Seoul	This source shows the percentage of farm households by province, and demonstrates a low percentage in Seoul. Since farming relies on soil fertility this could be seen as a site factor, but it also shows that Seoul is likely dependent upon other regions of Korea for food supply, which relates to the situation of Seoul.
8	Local (a photo taken within Seoul)	Local (only shows Seoul and not all of it)	Seoul	This photograph of Seoul is at the local scale and tells us about Seoul. It shows us both site and situation character-istics of Seoul: along with the mountains and water, there are many bridges and roadways.

What other documents or information would be helpful in indicating the site and situation of Korea and/or Seoul?

▶ Answers will vary greatly. Students could ask for specific information regarding site and/or situation factors, depending on what they see as valuable. The point is for students to recognize the limitations of the documents they have viewed and to consider other information that would be useful. For example, a chart of internal and external migration numbers for South Korea, or a list of multinational corporations present in Seoul, would be helpful.

Based on the documents, summarize the site and situation of Korea in the context of the world.

▶ Answers will vary. One potential answer is that South Korea, despite being a relatively small country in terms of land area, has many trade connections with other places in the world, especially with Europe and North America. As a peninsula, South Korea has easy access to the world's oceans.

Based on the documents, summarize the site and situation of Seoul in the context of Korea.

▶ Answers will vary. One potential answer is that within Korea, Seoul is very important. Not only is it a very large city, but it also has a very large economy. It is a very modern city with many new buildings, roadways, and bridges.

TEACHER KEY: EXIT TICKET SAMPLE ANSWERS

Note: There are many possible answers to the questions, including the following examples.

National Scale of Analysis	
Describing South Korea	**Describing the United States**
▶ Site: Peninsula Mountains Small land area Access to seas and rivers ▶ Situation: Multinational corporations (e.g., Hyundai) Global cultural influence (e.g., K-Pop) Border with North Korea Island disputes with Japan	▶ Site: Lots of different features — mountains, rivers, lakes, oceans Fertile soil Large land area Varied climates Disconnected territories (Alaska and Hawaii plus other small islands) ▶ Situation: Major player in the U.N. (Security Council) Part of NATO and other supranational organizations Imports and exports a lot

Now that you have described each, answer the following question:

How does the site and situation of the United States compare with that of South Korea?

▶ The United States is significantly larger in land area and quantity of resources, whereas South Korea is a smaller country on a peninsula. The United States is very involved in world organizations, whereas South Korea trades with other countries, but isn't affiliated with regional supranational organizations, other than the U.N.

Local Scale of Analysis	
Describing Seoul	
▶ Site: Rivers Mountains Inland	▶ Situation: A key city within South Korea, and a major city in East Asia as a whole Cultural, economic, and political center of South Korea Headquarters of Hyundai and other multinational corporations

Thinking of Seoul's site and situation (that you explored in the documents), describe its significance to South Korea. For example, in the United States, New York City is the largest city in terms of population and acts as an economic center, but Washington D.C. is the capital city.

▶ Unlike the United States, which does not have a city dominant in all functions, Seoul is not only the largest city by far in South Korea in terms of population size, but also the key city in terms of political, economic, social, and cultural functions. No other city within South Korea has a comparable importance to the country.