Comparing the Largest and Smallest Countries
Lesson Plan

Subject Areas: Social Studies and Math

Grade Levels: The lesson can be adapted for grades 4–12 (ages 9–18).

Time: At least one 50-minute class period; time outside of class as necessary

Lesson Objectives:

Students will:

• Develop a better understanding of demographic and economic concepts such as population density, net migration rate, and GDP per capita, and how statistics such as these can be used to compare the lives of people in countries and regions around the world.
• Analyze relationships and make conclusions based on data presented in tables and plots (graphs).
• Explain their findings in writing and visual slide shows.

Standards:

National Council for the Social Studies Standards\(^1\):

The Ten Themes of Social Studies

Theme 3: People, Places, and Environments
• Social studies programs should include experiences that provide for the study of people, places, and environments.

Theme 2: Time, Continuity, and Change
• Social studies programs should include experiences that provide for the study of the past and its legacy.

Common Core State Standards\(^2\):

Common Core State Standards for Mathematics:

Mathematical Practices
• Reason abstractly and quantitatively.
• Use appropriate tools strategically.

Measurement and Data
• Represent and interpret data.

College and Career Readiness Anchor Standards for Writing:

Standard 6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.
Overview:
In this lesson, students will use InspireData to compare the largest and smallest countries in the world, both in terms of population and area, as well as those countries whose populations are growing or declining most rapidly. While exploring and analyzing the data in visually engaging plots and tables, students should also develop a better understanding of demographic and economic concepts such as population density, net migration rate, and GDP per capita, and how statistics such as these can be used to compare the lives of people in countries and regions around the world. Students can use InspireData to look for trends among multiple fields of data and groups of countries, such as regions. Discoveries and ideas will be documented in annotated slide shows.

Preparation:

- This lesson requires the InspireData® software application published by Inspiration Software, Inc. You can download a 30-day trial at [http://www.inspiration.com/InspireData](http://www.inspiration.com/InspireData).
- Access to library resources and/or the Internet might also be helpful for student research.
Lesson:

1. Tell students that in today’s lesson they will be comparing the most populous and least populous countries in the world. Divide them into small groups of two or three students and ask them to brainstorm lists of the largest and smallest countries in the world in terms of population, as well as approximately how many people they think live in those countries. After a few minutes, call for a representative of each group to share their ideas with the class. A world map should be available so students can more easily identify countries.

2. Demonstrate for students how they can compare their lists with the actual data by opening the Largest-Smallest Countries database located here: InspireData Starter>Databases>Social Studies>Largest-Smallest Countries.

3. Read the table notes and discuss the contents of the table, examining field notes as necessary and defining any unknown terms. Point out that the database contains three different tabs of data tables. Which group identified the most countries correctly during the brainstorming session? Were the populations of the countries what the students expected or were they much larger or smaller? How much of a difference is there between the population of the largest and smallest countries? Examine the other fields in the first table together as a class, and be sure students understand the concepts presented in them, including the concept of regions.
4. In the table notes, point out the Possible Investigations that students will be exploring today, such as:
   - Which region(s) has/have the most countries with the largest populations? Which region(s) has/have the most countries with the smallest populations? What cultural and historical factors might contribute to this?
   - Do the countries with the smallest or largest populations tend to have the highest densities? What factors might contribute to this? Note: Select records can be excluded to make comparing the other records easier.
   - Investigate the net migration rate for the most/least populous countries of the world. What factors might contribute to the rates of migration?

5. Demonstrate how to switch to Plot View and construct a variety of plots to analyze the data. Your demonstration should include how to select plot types via the buttons on the Toolbar. Ask students for ideas about what types of plots would be interesting to explore. For example, the Axis plot tool could be used to show the growth and net migration rates of the most and least populous countries. Which countries are likely to remain in the top 10 of most and least populous in the future and which could be replaced by other countries? Are the countries with higher or lower growth or migration rates in any particular region? What factors might explain the differences?
6. Explain that students will be creating slides with notes that describe the data. Demonstrate how to use the Notes area to record an analysis for each plot. Click on the Note button in the lower right to open the area. Be sure to show students how to capture a slide for each plot, including their notes, by clicking the Slide Sorter button to open the Slide Sorter and then the Capture Slide button.

7. Click on the second tab, 10 Largest/Smallest Countries by Area, and then the third tab, 10 Highest/Lowest Pop. Growth Rates, and discuss the fields. Ask students what additional fields that were not shown in the first table are listed in these tables. Be sure to discuss the Literacy Rate (%) and Per Capita GDP fields and how the data could be used to better understand levels of economic development, the well-being of the people in the countries listed, and the countries’ varying growth rates. If desired, switch to Plot View and create additional sample plots and/or slides with the data.

8. Ask students to work with their groups to explore the database and create at least five slides that compare the largest and smallest countries. Also encourage students to do additional
research to better understand the countries in the database; for example, students could research per capita GDP or literacy rates for the countries in the first table, add that data to the database, and analyze it. Sample resources that list this data can be found in the Adaptations/Extensions section at the end of this lesson. For each plot, direct students to do the following:

- Add a title (Plot menu>Plot Title...).
- Add statistics such as mean, median, and percent as appropriate.
- In the Notes area, record an analysis that includes a discussion of the general trend(s) shown by the plot, any outliers, and their meaning in the context of the situation.
- Capture a slide.

9. If time allows, have student groups present their slide shows to the class. Ask them to present the three slides they think are the most interesting and explain why.

10. Conclude the lesson with a discussion of what students have learned about the largest and smallest countries of the world. What historical, economic, and geographical factors could have contributed to these trends?

Adaptations/Extensions:

- Have students first conduct research to gather the most up-to-date statistics about the countries.
- Suggest additional sources students can use in the research process discussed in step 7, as well as in the adaptation above, such as:
- Encourage students to analyze the Countries of the World database so they have a better idea about how levels of economic and social development differ in countries and regions worldwide (InspireData Starter>Databases>Social Studies>Countries of the World). Ask how levels of development might have impacted women’s efforts to gain political power. There is also a Countries of the World example database with many sample plots: InspireData Starter>Learn to Use>Example Databases>Countries of the World.
- Students may use Inspiration® or Kidspiration® to create a diagram that summarizes what they learned using the database and in their other research.
• Refer students to the “Learn to Use” handouts for help with plotting and analysis (Help>Documentation>Handouts). You may want to print one or more sets of handouts to make them available for students.

• For younger students, consider analyzing more of the data as a whole class, at least until students understand the process. The entire lesson could also be conducted as a class.