

# Social Sciences/History: Geography

## Maps, Maps, Maps

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### Objectives

Students will be able to:

- Interpret different types of maps.
  - Describe different demographics and how they relate to specific countries.
  - Explain a histogram.
  - Relate and compare countries by their demographics and place in the world.
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### Warm-Up

Brainstorm: How many different maps can you come up with?

Examples: world map by population, birth rate, etc.

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### Lesson

- Open the lecture with the population map of the world on Wolfram|Alpha.



population



Assuming "population" is international data | Use as a word instead

Input interpretation:

*Mathematica form*

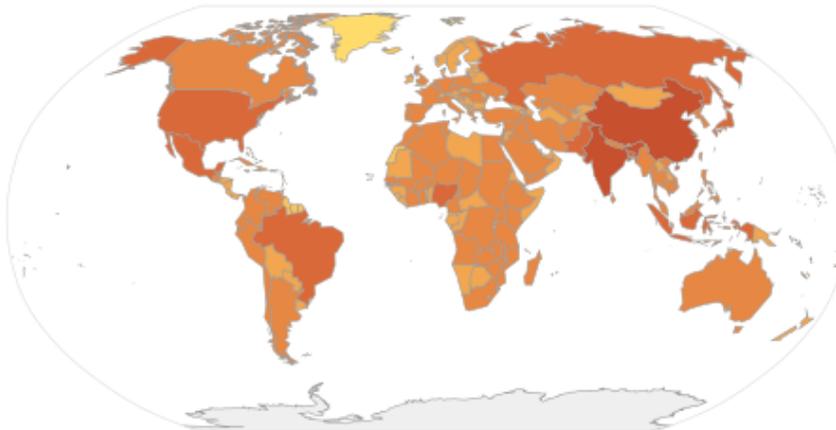
all countries population

Summary:

total	6.68 billion people
highest	1.31 billion people (China)
lowest	48 people (Pitcairn Islands)

(2006, 2007, 2008 and 2009 estimates)

Population map:



- 10 to 100
- 10000 to 100000
- 10 million to 100 million
- 100 to 1000
- 100000 to 1 million
- 100 million to 1 billion
- 1000 to 10000
- 1 million to 10 million
- 1 billion to 10 billion

(in people)

Explain the colorings and different interpretations of the map itself. Which countries have the highest and lowest populations? What country has the 15th highest population? What else did you learn from this map? What did you learn from the distribution plot?

- Discuss the different world demographics and compare different countries' life expectancies, etc. Talk about the factors that would affect this rate.
- Group project: In small groups, direct students to interpret the world map of (country). Each group will randomly select the map they will be researching. Have students use Wolfram|Alpha to find the following information based on the map: birth rate, population, population growth, population density, life expectancy, median age, death rate, literacy rate, or GDP per capita.

Example: population density



population density



Assuming "population density" is International data | Use as [referring to physical quantities](#) instead

Input Interpretation:

*Mathematica form*

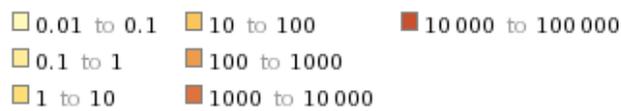
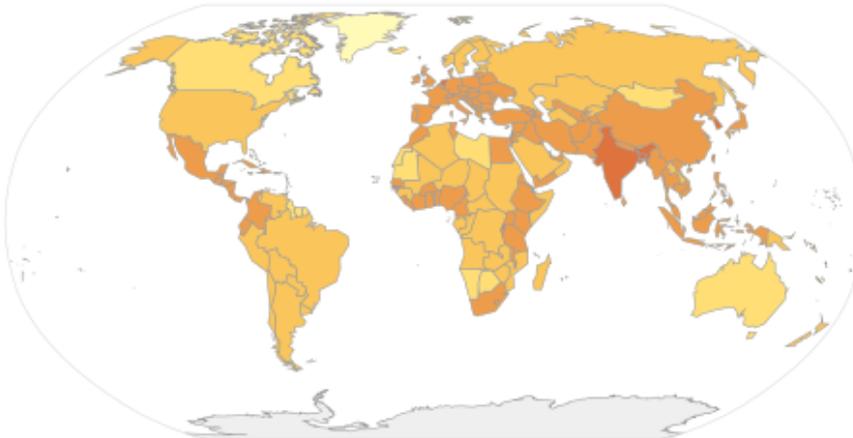
all countries population density

Summary:

average	133 people/mi <sup>2</sup>
median	199 people/mi <sup>2</sup>
highest	44 188 people/mi <sup>2</sup> (Macau)
lowest	0.0695 people/mi <sup>2</sup> (Greenland)

[Units >](#)

Population density map:



(in people per square mile)

Point out five key facts you learned from just studying the map.

What was the highest/lowest \_\_\_\_\_ in your map?

Interpret the histogram in a paragraph.

Find the 23rd ranked country in regard to \_\_\_\_\_.

What is the rate of the United States?

What is the distance from the highest-ranked to the lowest-ranked country?

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## Closing

Round-robin: Have each group quickly give two facts about the map they researched.

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## Demonstrations

Members of International Organizations

Country Groups

Colorcoded Comparison Country

Population Selector