

Avoiding the Crowd: Understanding Population Density of Earth's Continents

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Grade Level	2
Duration	2 class periods

National Standards

GEOGRAPHY

Element 1: The World in Spatial Terms

1. How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information
3. How to analyze the spatial organization of people, places, and environments on Earth's surface

AZ Standards

Mathematics

Measurement and Data

2.MD.D10 Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Solve simple put-together, take-apart, and compare problems using information presented in the graph

Standards for Mathematical Practice

- 2.MP.2. Reason abstractly and quantitatively.
- 2.MP.4. Model with mathematics.

Arizona Social Science Standards

GEOGRAPHY

The use of geographic representations and tools help individuals understand their world.

2.G1.1 Use and construct maps, graphs, and other geographic representations of familiar and unfamiliar places in the world; and locate physical and human features.

Overview

One of the ways to spatially analyze the world is through population density (average number of people per square mile). To obtain the population density of a country or continent, one must divide the population of a country by its number of square miles. An understanding of population density of a place or region by students can help them see present and future issues such as lack of enough cropland, crowded urban cities, and placement of transportation routes.

Purpose

In this lesson students will gain a better understanding of the population density of the world's continents through a kinesthetic activity and by graphing.

Materials

- The Continents of the World map (labeled or unlabeled)

- Table of World Population Density by Continent
- Images of Densely Populated and Not Densely Populated
- Crayons, colored pencils
- One 5'x5' square of butcher paper or mark off a 5' x 5' square with masking tape
- Projection device
- Population Density of the World's Continents Graph

Objectives

The student will be able to:

1. Identify the continents on a world map.
2. Recognize that population density is a characteristic of how humans interact with their environment.
3. Construct a graph reflecting geographic information.

Avoiding the Crowd

Procedures

- Prior to this session: Obtain one 5'x5' square of butcher paper or mark off a 5' x 5' square with masking tape on the floor.

SESSION ONE

1. Distribute a World Map to each student. Project the two images for Densely Populated and Not Densely Populated. Discuss what population density means. Be prepared to give examples of a square mile from the neighborhood near the school.
2. Project your labeled copy of the World map and have students write the names of the continents on their maps.
3. Project the Table of World Population Density by Continent and only show the first two columns (Continent and Population per Sq. Mile. Discuss which continents that have the largest and smallest figures.
4. Go to your 5' by 5' foot square on the floor. Explain to the students that the paper represents one square mile and that the number of students standing on the paper will represent the population density of each and every square mile on the entire continent.
5. Explain to the students that for the purpose of the activity, one student will stand for 10 people. Look at the fourth column on Table of World Population Density by Continent and have 6 students stand on the square and announce this is the population density for North America. Is everyone really crowded? Would there be land for farming? Go through the continents allowing all students to participate as people on the square.
6. End Session One by projecting the Table of World Population Density by Continent (columns 1-3) and have students color in the world map with the colors required and write in the numbers for population density.

SESSION TWO

1. Project the Table of World Population Density by Continent sheet (columns 1-2). Distribute the Population Density of the World's Continents Graph worksheet.
2. Model how to graph the numbers for population density using North America as your example.

Assessment

Geography

The labeling of the continents on the world map can be graded. Mastery will be considered 100%.

Geography and Mathematics

The graph created can be graded for correctness. Mastery will be considered 80% or higher in graphing the population density of the continents.

Extensions

Show the students a population pyramid for one of the world's countries. Have them discuss in which age bands the largest groups of people are found. What services or goods might this group of people need? For example: India needs schools and good health care for children since this is a very large part of their population.

Sources

Population Density Data

<https://www.geographyrealm.com/continents-population-density/>

Video on how Population Density is Calculated

<https://www.wikihow.com/Calculate-Population-Density>

Population Pyramids (by country not continent)

<https://www.indexmundi.com>