

Population and Area Comparison

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Theme

A

PURPOSE

To demonstrate the difference between the population density of East Asia and the U.S.

THEME STATEMENT

People, Places & Environment (PPE): Humans create spatial views and geographic perspectives of the world to make informed and critical choices about relationships.

SUGGESTED TIME

One class period of fifty minutes.

KEY VOCABULARY & CONCEPTS

Population density.

MATERIALS NEEDED

- pie chart with 48% representing the land area of the United States (3,536,340 sq. mi.) and 52% representing the land area of East Asia (3,845,260 sq. mi.) [Student Handout #1]
- different color stickers (each representing 10,000,000 people) for each of the following countries (you may recalculate sticker allocation based on updated population statistics):
 - China: population 1,236,700,000 or 120 stickers
 - Japan: population 126,100,000 or 12½ stickers
 - North Korea: population 24,300,000 or 2½ stickers
 - South Korea: population 45,900,000 or 4½ stickers
 - Taiwan: population 21,500,000 or 2 stickers
 - United States: population 267,700,000 or 26½ stickers
- for advanced students: atlas (with data containing population and areas), protractor, and calculator

BACKGROUND INFORMATION

This lesson could be used as a whole class activity or as a group exercise.

INITIATION (Inquiry, Preview, Involvement)

1. Introduce the idea of population density by having students crowd together, two to a seat and moving desks extremely close together.

SUMMARY

Adaptable Levels
Grades 5-9

Related Themes
USGC

Values
Appreciation of the earth's value and limitations

Skills
Drawing conclusions, researching, observing, comparing, organizing, problem-solving

Integration
Social studies, math

2. Present the class with the following questions by writing them on the board:
 - How would you compare East Asia's land size with that of the United States?
 - How would you compare East Asia's population with that of the United States?
 - What is population density?
 - What problems could be caused by high population density?
 - What are some possible solutions to the problem of overcrowding?
3. Divide the class into groups of three to four students.
4. Have the students answer the questions in small groups and discuss their answers with the large group afterward, recording responses from all groups on the board.

DEVELOPMENT (Instruction, Data Collection, Organization)

1. Provide each group with materials (see Materials section): (1) pie chart of U.S. and East Asia land area, (2) different colored stickers for each 10,000,000 of each country's population, and (3) a list of countries and their populations (advanced students should research this information themselves).
2. Explain that the pie chart represents the land area of the United States and the land area of East Asia.
3. Instruct the students to use one sticker to represent every 10,000,000 people and have them match the countries with the correct color of sticker. (HINT FOR STUDENTS, if needed: the bigger the population, the more stickers would be needed.) Have students place the stickers on the correct side of the chart (East Asia or U.S.).

EXTENSION/ENRICHMENT (Idea Articulation, Ownership, Experimentation)

After the charts have been completed, have the groups revise their original answers to the questions that are on the board. Follow this with a class discussion of the answers, before the groups turn in their responses.

ASSESSMENT OF ACHIEVEMENT

Have students move out of their groups and write a paper which explains three problems of overcrowding and three possible solutions to the problem of overcrowding (fitting more and more people into the same size space). Have students exchange answers with another student and evaluate their answers by using the following rubrics (in each case, give students the opportunity to revise their answers before turning in their papers):

- 4 = answer clearly states three problems and three solutions
- 3 = answer states two problems and two solutions
- 2 = answer minimally states one problem and one solution
- 1 = problems and solutions are not clearly stated

ALTERNATIVES

- This lesson could be adapted to different grade levels by having more advanced students draw their own charts and providing less structure by the teacher, allowing students to create their own structure for the activity.
- For more advanced classes, have students calculate how many stickers would be used to represent each country's population.

REFERENCES & RECOMMENDED RESOURCES

1997 World Population Data Sheet. Published by Population Reference Bureau,
1875 Connecticut Avenue NW, Suite 250, Washington, D.C., 20009-5728.
Tel.: (202) 483-1100

STUDENT HANDOUT #1:

Land Area of East Asia Compared to the United States



