

Comparing India and China's Population with Pasta

Kelly Davidson – School not available

Grade Level (Req.): 6th-8th grade	Content Area (Req.): World Geography, Sociology, English/Reading	Unit (Opt.):
Connections to Other Disciplines (Opt.):		
<ul style="list-style-type: none"> • • • 		
Time Frame (Req.): 2-3 class periods	Goal (Req.): To visualize differences in population and discover how countries handle their population problems.	
	Objective (Req.): Students will discuss reasons why a country might try to limit its birth rate. Students will compare geographic data for China and India. Students will use an online database to compare other population indicators for China and India. Students will write paragraphs explaining what these population statistics reveal about China and India. Students will read and answer questions about the population situation in China and India. Students will create a visual display of population data. Students will determine whether India should adopt a one-child policy.	
Materials Needed (Req.):	New Vocabulary (Opt.):	
<ul style="list-style-type: none"> • Yarn • Dry elbow pasta, dry ziti pasta • Wire clothes hangers or sticks • Printed maps of India and China • Internet access • Large paper • Glue, markers, rulers 	<ul style="list-style-type: none"> • • • • • 	
Anticipatory Set/Introduction [Inquiry Question is required] (Req.): How does India's population compare to China's? Does India need government intervention to control population?		
Instructional Sequence/Procedure (Req.):		
<ol style="list-style-type: none"> 1. Write the following terms on the board: population density, birth rate, death rate, life expectancy, per capita income (GNP), and literacy rate. Define each of these terms and have students record terms and definitions. Ask students to explain in a discussion what it means when each of these factors is high or low for a particular country. For example, what does it mean when a country has a high birth rate? What does it mean for a country to have a low population density? Why is literacy a way to measure how "developed" a country is? 2. Define the following terms: population-growth rate (the rate at which a population grows each year), rate of natural increase (the rate at which a population grows each year based solely on births and deaths, not migration), and per capita income (the average amount of money each person in a country earns per year). Make sure students record these as well. Inform them that these concepts will be helpful later in the lesson. 3. Have pairs of students go to your-nation.com and click on "Compare." Ask them to compare China and India on the following indicators: population, population growth, birth rate, death 		

rate, literacy rate, and infant mortality. As they view the comparisons, have them record the numbers they see.

4. Have students write paragraphs analyzing the statistics they've found. Their paragraphs should answer the question "What do these numbers reveal about China and India?" Students should provide specific examples from the statistics to support their responses.
5. Allow each pair to select one indicator (population, population growth, birth rate, death rate, literacy rate, or infant mortality) to display. They will use one type of pasta (e.g., ziti) to represent 100 million people. Use the other type (e.g., elbow) to represent ten million people. Students will round digits off to the nearest whole number.
6. Create a visual display of the selected area. Make sure visuals include appropriate titles. Ways to display: Take a map of each country and glue the pasta to the map. Get two paper cups and fill each with the appropriate amount of pasta for each country; remember that a bowl which appears to have more pasta might have a smaller population, since one type of pasta represents ten times as many people as the other; create labels for each bowl. Tie a big knot at the end of two pieces of yarn; slide each country's pasta onto a different string; then attach the strings to the stick or coat hanger; don't forget to label each strand of the mobile using an index card or a piece of construction paper. Make a bar graph; draw two horizontal lines on a big piece of paper; at the far left of each line, write the countries' name. Next to each name glue the pasta for that country.
7. Have students, in pairs, find 6 Billion and Beyond (<http://www.pbs.org/sixbillion/>) on the Internet. Have them click on India and China and read each brief excerpt. After reading the country information, each pair should answer the following questions for each country: What is this country's birth rate? What factors contribute to this country's birth rate? What is the government's role in this country's birth rate?
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Formative Evaluation (Req.): Class discussion

Assessment (Req.): Have students write essays or prepare speeches answering the question "Should India have a one-child policy like China's? Why or why not?" They should provide specific examples from their research and discuss the differences between China and India that have an impact on the population situation in each country.

Iowa Core Curriculum Standards Used (Req.):

- Geography, grade 6-8: Understand the use of geographic tools to locate and analyze information about people, places, and environments.
- Geography, grade 6-8: Understand how human factors and the distribution of resources affect the development society and the movement of populations.
- Technology Literacy, grade 6-8: Use critical thinking skills to conduct research, solve problems, and make informed decisions using appropriate technological tools and resources.
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Common Core Curriculum Standards Used (Opt.):

- Speaking and Listening, grade 6-12: Engage effectively in a range of collaborative discussions (one-on-one, in groups and teacher-led) with diverse partners on specific grade level topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.
- Writing Standards for Literacy in History/Social Studies, grade 6-12: Write arguments focused on discipline-specific content.
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NGS Standards Used (Req.):

- How to use maps and other geographic representations, tools, and technologies to acquire, process, and report information from a spatial perspective
- The characteristics, distribution, and migration of human populations on Earth's surface
- How to apply geography to interpret the present and plan for the future.
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Five Themes of Geography Used (Req.):

- Place
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School District Standards and Benchmarks (Opt.):

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21st Century Universal Constructs (Opt.): Critical Thinking, Creativity, Collaboration

Other Disciplinary Standards (Opt.):

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Other Essential Information (Opt.):

Other Resources (Opt.):

- <http://www.nationalgeographic.com/xpeditions/lessons/09/g912/population.html>
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