

## Filling the Gap: Using Mathematics in the Middle Grades to Teach Social Justice

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Paulo Freire...

"Students, as they are increasingly posed with problems related to themselves in the world and with the world, will feel increasingly challenged and obliged to respond to that challenge....Their response to the challenge evokes new challenges, followed by new understandings; and gradually the students come to regard themselves as committed." (1970/1998,p.62)





#### This activity strives to:

- Identify individual continents and their food supply.
- Propose strategies to correct the imbalance of the food distribution in the world.

#### **Lesson Adapted from:**

 <u>http://www.iupui.edu/~ghw/lessons/materials/</u> <u>PopulationUnitCH.doc-</u>





### **Statistics Regarding Population**

# In August of 2008 the world's population was approximately 6,705,000,000 people.





## **Population by Continent**

- Africa
- Asia
- North America
- South America
- Europe
- Australia

967,000,000 people 4,052,000,000 people 542,000,000 people 373,000,000 people 35,000,000 people



## What Are the Percentages?

•	Africa	967,000,000	14.5%	
•	Asia	4,052,000,000	60 %	
•	North America	542,000,000	8 %	
•	South America	373,000,000	6 %	
•	Europe	736,000,000	11%	
•	Australia	35,000,000	.5%	
	Total Population 6.705.000.000			

What would that look like in our class?

- If we were to take the number of students in our group and place them proportionally into each of the six continents identified, how many individuals belong to each continent? (Assume 26 students)
- Africa
- Asia
- North America
- South America
- Europe
- Australia

- 4 students
- 15 students
  - 2 students
  - 2 students
  - 3 students
  - 0 students





## **Distributing food**

- Candy is being distributed to each continent group in our class in proportion to the actual availability of food on those continents.
- After distribution, all of those with food may sit down. Those without food remain standing.
- What does this tell us about how many people in the world go hungry each day?





## Who is going to bed hungry?

Africa

1 out of every 3 individuals go to bed hungry

Asia

1 out of every 5 individuals go to bed hungry

South America

1 out of every 8 individuals go to bed hungry





## How Many is That? Do the math!

Continent	Population	Hungry
Africa (1 out of 3)	967,000,000	322,333,333
Asia (1 out of 5)	4,052,000,000	810,400,000
South America (1 out of 8)	373,000,000	46,625,000





## Some Things to Think About...

- Where do most people live?
- Where is there a surplus of food? Why?
- Where is there a shortage of food? Why?
- What can be done to help the people that are going to bed hungry?
- Anything else?



Critical Features of a Social Justice Lesson (As generated by session participants in discussion)

- Compare locally. Gives students some point of reference within what they know.
- Create a simulation that critically looks at items that affect their personal lives.
- Be mindful of the environments that they are participating within.
- Support the self-efficacious feelings of the individual.
- Create an environment that allows the students to understand their role and power in changing the problem. (Student driven)





# Questions from and discussion with the audience

### Thank you!!



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#### Resources

- Freire, P. (1970/1993). *Pedagogy of the oppressed*. New York: Continuum International Publishing.
- Freire, P. (1998). *Pedagogy of freedom; Ethics, democracy, and civic courage*. Lanham, Maryland: Rowman & Littlefield Publishers.
- Gutstein, E. (2006). Reading and writing the world with mathematics; Toward a pedagogy for social justice. New York, Routledge Taylor & Francis Group.
- Gutstein, E., & Peterson, B. (Eds.). (2006). Rethinking mathematics; Teaching social justice by the numbers. Milwaukee: Rethinking Schools.
- Shor, I. (1992). *Empowering education; Critical teaching for social change*. Chicago: The University of Chicago Press.
- Shore, I. (Ed.). (1987). Freire for the classroom: A sourcebook for liberatory teaching. Portsmouth, NH: Boynton/Cook Publishers, Heinemann.

Websites:

- <u>www.radicalmath.org</u>
- <u>www.rethinkingschools.org</u>
- <u>http://www.iupui.edu/~ghw/lessons/materials/PopulationUnitCH.doc-</u> lesson adapted from this site.