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.”

How Hunger Impacts Our World

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:

• [http://www.iupui.edu/~ghw/lessons/materials/PopulationUnitCH.doc-](http://www.iupui.edu/~ghw/lessons/materials/PopulationUnitCH.doc-)
Statistics Regarding Population

In August of 2008 the world’s population was approximately 6,705,000,000 people.
### Population by Continent

- **Africa** 967,000,000 people
- **Asia** 4,052,000,000 people
- **North America** 542,000,000 people
- **South America** 373,000,000 people
- **Europe** 736,000,000 people
- **Australia** 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)

<table>
<thead>
<tr>
<th>Continent</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>4 students</td>
</tr>
<tr>
<td>Asia</td>
<td>15 students</td>
</tr>
<tr>
<td>North America</td>
<td>2 students</td>
</tr>
<tr>
<td>South America</td>
<td>2 students</td>
</tr>
<tr>
<td>Europe</td>
<td>3 students</td>
</tr>
<tr>
<td>Australia</td>
<td>0 students</td>
</tr>
</tbody>
</table>
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
<table>
<thead>
<tr>
<th>Continent</th>
<th>Population</th>
<th>Hungry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>967,000,000</td>
<td>322,333,333</td>
</tr>
<tr>
<td>(1 out of 3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asia</td>
<td>4,052,000,000</td>
<td>810,400,000</td>
</tr>
<tr>
<td>(1 out of 5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South America</td>
<td>373,000,000</td>
<td>46,625,000</td>
</tr>
<tr>
<td>(1 out of 8)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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!!
Resources


Websites:

• [www.radicalmath.org](http://www.radicalmath.org)

• [www.rethinkingschools.org](http://www.rethinkingschools.org)

• [http://www.iupui.edu/~ghw/lessons/materials/PopulationUnitCH.doc-lesson adapted from this site.](http://www.iupui.edu/~ghw/lessons/materials/PopulationUnitCH.doc-lesson adapted from this site.)