

# Global Health in the Social Studies Classroom

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Photo by Chris Randall

Students take a “water walk” to experience the way millions of people around the world obtain water for drinking, cooking, watering gardens, and other household uses. According to the UN, on average, people without water in or near their homes walk about one kilometer each way to fetch water.

**It may surprise students** to realize that health problems in other countries affect them, too. Where people live and the conditions under which they live directly affect their health. The health of a population can also offer insight into a region’s social, political, and economic realities. As a powerful lens into how human societies function, global health is a highly relevant topic for the social studies classroom.

## Access to Clean Water is Fundamental

When I talk with students about global health, I begin with the topic of water. Nearly one-sixth of the world’s population—1.2 billion people—lack access to drinking water that is safe. Understanding the need for clean water and why it is plentiful or scarce are core elements in the study of global health and wealth distribution.

Several years ago, I consulted at a school in Chicago that was revising its geography curriculum. One topic on teachers’ minds was water. “Our students don’t understand or appreciate

water,” they told me. “They leave the taps running, don’t jiggle the handle on a running toilet, and ask for water but then don’t drink it.” The teachers’ remarks triggered an idea. A classic technique for helping people develop an appreciation for something they take for granted is to engineer an experience that catches them by surprise and prompts them to see things in new ways. I had recently read a United Nations Development Program report estimating that, on average, people without water in their homes walk about one kilometer each way to fetch water. I asked the teachers how far their school was from Lake Michigan. The reply: two-thirds of a mile, almost exactly the one-kilometer distance mentioned in the report. On the spot, we designed a “water walk” activity to heighten students’ awareness about water as well as about the way many other people live.

The following morning, every student was to bring a pail or jug from home. For those who arrived without a container, I had arranged with a nearby hardware store to provide some disposable paint pots. The trip to the lake was fun; it was a beautiful fall day, and everybody was in good spirits. The

return trip to school, with students lugging full containers, was itself an educational experience. A gallon of water weighs eight pounds, which is heavy for a young person to carry for a kilometer. Typical comments were “This is so heavy,” “Can you help me?” and, most poignant of all, “Can I pour some of it out?”

Back at school, the students made sure that none of their water was wasted—they used it to water the school gardens. In discussing the experience, students admitted to being unaware that so many others around the world did not have access to a convenient supply of drinking water. They came to understand that their trek to the lake was what many people in the world have to do every day to obtain water for drinking, cooking, watering gardens, and other household needs. The students also appreciated in a new way the importance of conserving water and the difference having safe drinking water immediately at hand can make to one’s life.

Another way to help students empathize with others whose water supplies are severely limited is to restrict a class’s access to water. Do this by asking the students to drink only from a specified water fountain for a day. If students drink from another source (and they should if they have a real need), tell them to note each instance. The following day, hold a discussion and ask about the inconvenience of this limitation and whether anyone drank from another source of water and why. Point out how accustomed we are to easy access to clean water and how burdensome fetching adequate amounts of water can be. For students with access to their home’s water meter, suggest that they check for water leaks. Have them read the water meter at night. If the meter reads differently the following morning and no water was used overnight, then there is a leak somewhere. Tracking it down will save both water and money. These activities underscore the point that the value of having safe, plentiful, accessible water is inestimable.

Worldwide, the lack of clean water

and sanitation dramatically affects peoples’ lives. According to UNICEF, 2.6 billion people—about 40 percent of the world’s population—lack basic sanitation facilities, and 1.2 billion drink from unsafe sources of water. As a result, an estimated 3.5 million children die each year from diseases related to contaminated water. Such water contributes to diarrhea and other related illnesses. Furthermore, illness due to tainted water reduces the productivity of farmers and workers, seriously hampering the development of a community or nation. In addition, the mere act of obtaining water can have developmental repercussions. In the culture of some countries, girls and women are expected to fetch water, which may be a great distance from their homes. Such long-distance travel cuts into (and sometimes eliminates) the time they could be spending in school or engaging in other productive activities.

### **Thematic Maps Help Students Make Sense of Data**

A fundamental social studies skill is knowing how to make sense of data. One powerful way to do this is to use thematic maps to analyze how a demographic feature is distributed around the world. Thematic maps show the geographical distribution of a specific data set (e.g., population density, climate, growing season, grain production, transportation routes, average income, infant mortality, life expectancy, oil production, and illness rates; see Figure 1). By comparing two or more thematic maps at once, relationships, such as the association between latitude and malaria, become apparent. Using thematic maps to correlate data sets demonstrates to students their effectiveness as an analytical tool.

An excellent application of thematic maps is exploring the association between geography and health. Begin by asking students to write a prediction about the patterns they expect to see regarding the illness rates of people living in the tropics versus those of people living in temperate zones. Then, have

students examine a map that shows these rates by country. Ask, “What patterns do you see in the map(s)? How might illness patterns and latitude be related? What other information would help support your interpretations?” Determine whether there is congruency between the actual and predicted illness rates for countries near and distant from the equator, and discuss how a thematic map aids analysis.

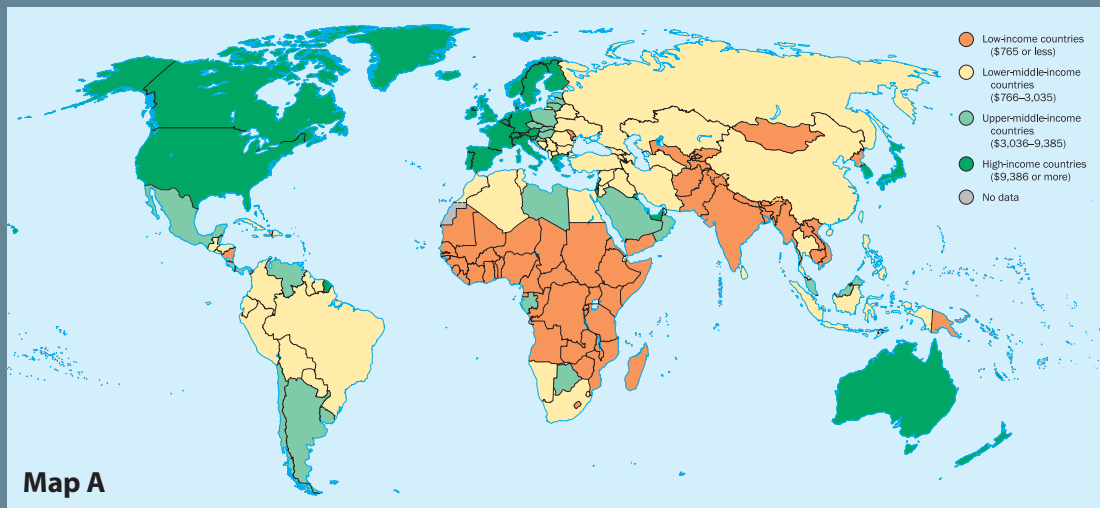
Once the class understands how to use the maps to analyze possible associations, have each student list some global health topics that may be related in some way. Have them use atlases, periodicals, books, and the web to obtain thematic maps on these topics. Pertinent themes include anything that occurs at a global scale and is potentially health related, such as population density, doctors per capita, gross domestic product, life expectancy, distribution of specific diseases, vaccination rates, average temperatures, precipitation, type of biome, energy usage, nutrition levels, and infant and child mortality. The following are examples of interesting associations:

- the incidence of malaria and average temperature
- average income level and life expectancy
- the incidence of malaria and average income level
- infant mortality and latitude
- immunization rates and measles deaths

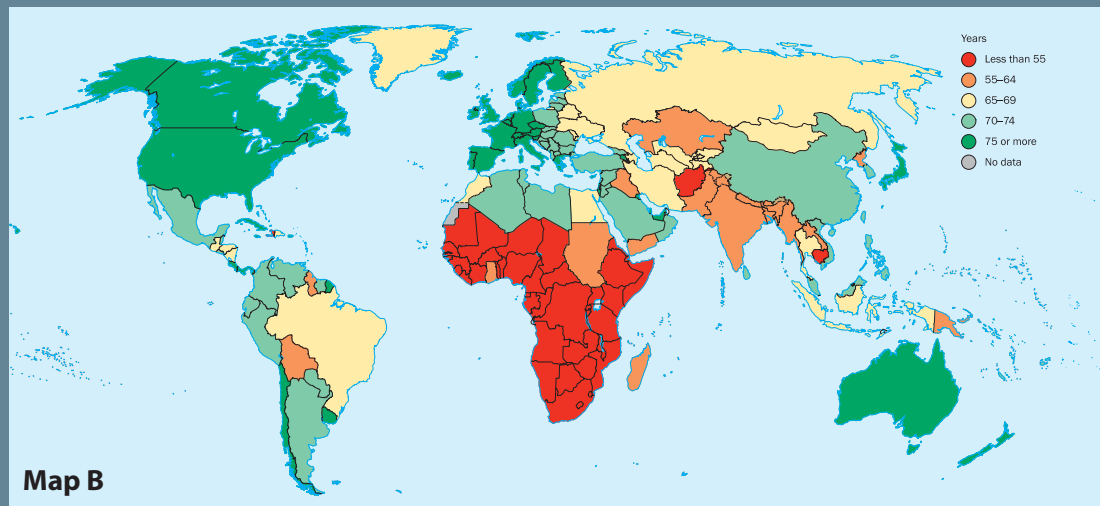
The World Bank is an example of an international organization that offers thematic maps on its website. The resource section lists additional sources of thematic maps. The World Health Organization’s website has an interactive tool that lets you create customized maps based on its extensive set of health, economic, and population data. When students find a data set without an accompanying map, encourage them to devise their own thematic maps. The

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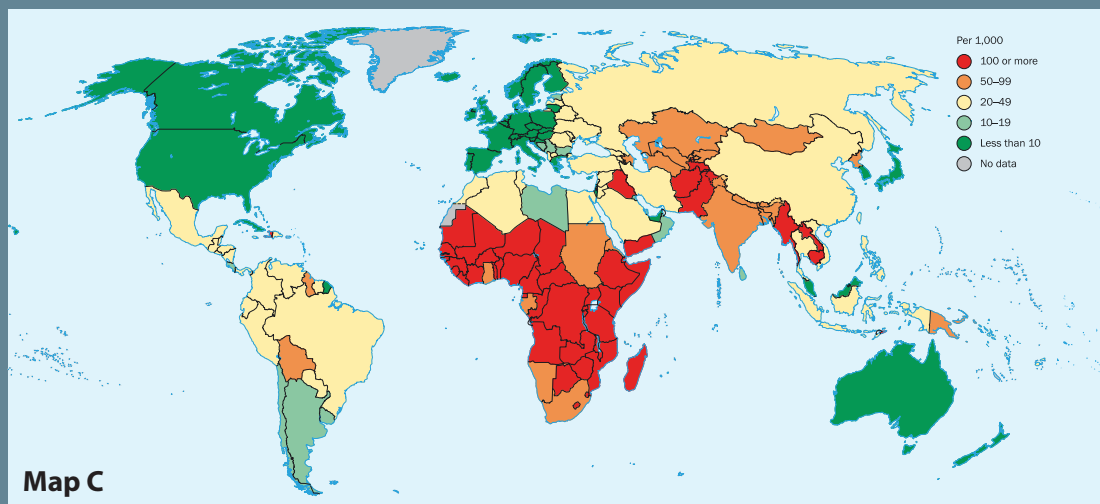
## Average Per-Capita Income



## Average Life Expectancy



## Infant Mortality



Maps are from the 36th edition of the World Bank Atlas. Used with permission of the World Bank Development Data Group. Available online at <http://www.worldbank.org/data>.

Figure 1. Thematic maps display data (e.g., population density or annual rainfall) on a geographic map. They enable people to identify associations among various factors, such as health, geography, and economics. The data displayed in maps A and B suggest that countries with higher incomes have higher average life expectancy. Maps B and C indicate that countries with lower average life expectancies have high infant mortality rates.

data are typically reported by country, making it easy for students to create a map. Have them define a range of values and subdivide it into two or three groups. Then, sort the data into these groupings, assign a color to each one, and color code a blank world map. If you photocopy a blank map onto transparencies, students can stack different thematic maps and, in a visually-effective way, see if there is a correspondence between the data sets.

To conclude the activity, place the class set of maps on a central table (or on the wall) and gather the class around. Ask, “What general trends do you notice?” (*Some possible answers: population is not evenly distributed; there are significant differences between countries in tropical and temperate regions; developed countries have fewer widespread health issues.*) “What

conclusions can we draw?” (*Students typically note that health is influenced by climate, geography, economics, cultural practices, education, and political freedoms and stability.*) Point to one of the maps on the table and challenge students to identify another map that relates to it. For example, one map may show higher infant mortality rates in countries near the equator. What other maps might help explain this trend? Students can check to see how the data on life expectancy, malaria rates, average income, healthcare infrastructure, access to clean water, and adequate nutrition are distributed geographically. While it is impossible to definitively show a cause-and-effect relationship, students can see associations between maps showing different kinds of data and can draw preliminary inferences from their analyses. The activity can

lead to engaging discussions about the relationships between health and social, political, economic, and geographic factors.

As a follow-up activity, visit the *Rx for Child Survival*™ website and download *Investing Your Money Wisely*, a free card-based game in which students role play committee members who advise the government of a fictitious equatorial country on how to spend its limited healthcare budget. Their challenge is to allocate \$500 million to keep the greatest number of people healthy. The limited budget forces hard choices as students decide which public health measures to institute. (Figure 2) For example, students typically (and sensibly) invest in the important basics, such as adequate nutrition, clean water, vaccines, and antibiotics. Unfortunately, these

## Rx for Survival

*Rx for Survival*™ is a multimedia project that explores the vital role public health programs play in our lives. The project consists of a six-part documentary television series; a companion book; and a *TIME* magazine special report and National Public Radio (NPR) features on global health, both timed to coincide with the broadcast. The extensive outreach campaign includes a content-rich website and an online teacher guide. These resources can help you integrate global health themes into your science or social studies curriculum.

The heart of the project is the six-hour documentary series, airing November 1-3 on PBS. Co-produced by the WGBH/NOVA Science Unit and Vulcan Productions, the series recreates historic breakthroughs in public health and tells many poignant stories about the current healthcare efforts in the United States and around the world. The program follows scientists as they search for vaccines to combat new diseases; describes the growing threat of antibiotic-resistant strains of bacteria; visits patients suffering from “old” diseases like tuberculosis; highlights the struggle to deliver basic health services to those who need them most; and explains why the next epidemic could be just a plane ride away.

The *Rx for Survival* website features global health statistics, seven global health-related games, an interactive global health atlas, interviews with global health experts, and an *Rx for Survival* classroom guide. This guide, intended to be used in middle and high school science and social studies classrooms, contains six standards-based lesson plans linked to the series topics.

Improving health for all is a challenging, but reachable, goal. To see how you and your class can advance your understanding of global health and identify ways to make our world a stronger, healthier place, visit [pbs.org/rxforsurvival](http://pbs.org/rxforsurvival).

### WEB RESOURCES

#### Center for Sustainability and the Global Environment

[www.sage.wisc.edu/atlas/maps/](http://www.sage.wisc.edu/atlas/maps/)

The University of Wisconsin hosts the Atlas of the Biosphere, which provides a wide range of thematic maps that can be downloaded on topics, such as infant mortality, life expectancy.

#### Centers for Disease Control

[www.cdc.gov/ncbddd/folicacid/ambassador\\_pgm/lessonplans.htm](http://www.cdc.gov/ncbddd/folicacid/ambassador_pgm/lessonplans.htm)

A set of lesson plans on global health.

#### Global Health Reporting

[www.globalhealthreporting.org/](http://www.globalhealthreporting.org/)

Authoritative source of up-to-date global health news, data, and statistics.

#### Johns Hopkins Bloomberg School of Public Health Center for Communication Programs

[www.jhuccp.org/](http://www.jhuccp.org/)

Home of programs designed to influence political dialogue, provide health and healthcare information and conduct health communication research.

fundamental investments leave only about \$100 million for spending on about a dozen other worthwhile interventions, such as nutritional supplements, breast-feeding education, and training health workers. This predicament forces the group to discuss the relative merits of healthcare options, such as centralized hospitals versus local clinics and providing mosquito netting to reduce malaria infection versus supplying vitamins and micronutrients to ensure healthy growth and development. The activity mirrors the real-world prioritizations, trade-offs, and hard choices made daily around the globe.



Figure 2. These game cards from *Rx for Child Survival's Investing Your Money Wisely* show four of the fifteen public health factors students consider when deciding how to allocate a limited healthcare budget. The activity mirrors the real-world prioritizations, trade-offs, and hard choices made daily around the globe.

### Metaphor Makes Complex Information Easier to Understand

To make global data easier to understand, I use a metaphor to bring it into focus

#### National Geographic Worldwide Thematic Maps

[plasma.nationalgeographic.com/mapmachine/world-maps.html](http://plasma.nationalgeographic.com/mapmachine/world-maps.html)

A source of 16 thematic maps, including major habitat types, population, land use, elevation, biomes, soil types, precipitation, and average temperature.

#### Population Reference Bureau

[www.prb.org](http://www.prb.org)

Provides timely, objective information on health and population trends, their implications, and the population dimensions of social, economic, and political issues.

#### Rx for Survival™

[pbs.org/wgbh/rxforsurvival/campaign/givetime/index.html](http://pbs.org/wgbh/rxforsurvival/campaign/givetime/index.html)

Seven hands-on games that help people, aged 10 to adult, to learn about global health issues. These games are suitable for classroom use as well as in informal education settings, such as health fairs, after school, and camps.

#### UNESCO – UN agency for Education, Science, and Culture to build peace.

[www.unesco.org](http://www.unesco.org)

A wide range of health, nutrition, and population data, available by country and region.

#### UNICEF

[www.unicef.org/index2.html](http://www.unicef.org/index2.html)

A wide range of health, nutrition, and population data, available by country and region.

#### United Nations' CyberSchoolbus Global Disease Website

[www.un.org/Pubs/CyberSchoolBus/special/health/disease/index.html](http://www.un.org/Pubs/CyberSchoolBus/special/health/disease/index.html)

The *Cyber School Bus* is the classroom-centered section of the UN website; in this subdivision, on global disease, you'll find answers to any the disease-related questions that come up as you talk about water, as you make maps, etc.

#### U.S. Environmental Protection Agency

[www.epa.gov/safewater/wot/index.html](http://www.epa.gov/safewater/wot/index.html)

This *Water On Tap* website has an abundance of U.S. water resource data.

#### World Bank data center

[www.worldbank.org/data/maps/maps.htm](http://www.worldbank.org/data/maps/maps.htm)

A source of 12 thematic maps, including fresh water, growth in gross domestic product, income per person, infant mortality, and life expectancy.

#### World Health Organization Global Health Atlas

[globalatlas.who.int/](http://globalatlas.who.int/)

Offers extensive health, economic, and population data sets and an interactive tool for creating customized thematic maps based on those sets.

#### Worldwatch Institute

[www.worldwatch.org/](http://www.worldwatch.org/)

A leading source of information on key environmental, social, and economic trends.

#### Books with global data and information

*Goode's World Atlas*, Veregin, ed., Rand McNally, ISBN 0528853392. A very rich source of thematic maps for classroom discussion and activities.

*State of the World 2005*, Worldwatch Institute, W.W. Norton & Co., ISBN 0393326667.

*Vital Signs 2005*, Worldwatch Institute, W.W. Norton & Co., ISBN 0393326896.

*World Development Report 2005*, World Bank, Oxford University Press, ISBN 0821356828.

## Books about water, global health, and the global community

Barlow, Maude, and Tony Clarke, *Blue Gold*, W. W. Norton & Company, ISBN 1565848136. Examines the growing corporate interest in fresh water.

Kerley, Barbara, *A Cool Drink of Water*, National Geographic Children's Books, ISBN 0792267230. Photos and text explore the power and scarcity of water.

Sachs, Jeffrey, *The End of Poverty*, Penguin Press, ISBN 1594200459. A systematic exposition of ways to end extreme global poverty, written for a general audience. Contains many thematic maps.

Belafonte, Harry and UNICEF, *A Life Like Mine*, DK Children, ISBN 0789488590. Views of children's lives around the world.

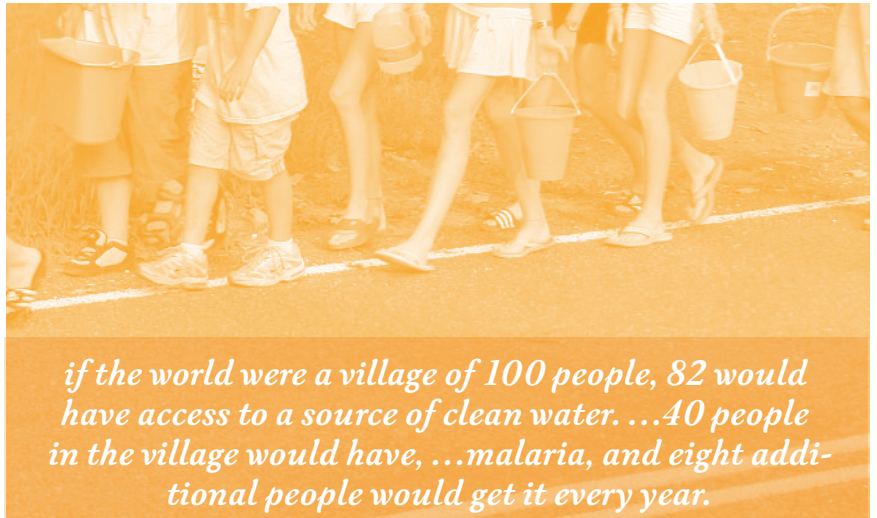
Smith, David, and illustrated by Shelagh Armstrong, *If the World Were a Village, A Book about the World's People*, Kids Can Press, ISBN 1550747797. Uses the metaphor of a village of 100 people to present statistics related to 20 global themes.

Postel, Sandra, *Last Oasis: Facing Water Scarcity*, W. W. Norton & Company, ISBN 0393317447. Explores ecological, economic, and political dimensions of water and describes ways to increase the productivity of every drop of water we use.

Menzel, Peter, *Material World, A Global Family Portrait*, Sierra Club Books, ISBN 0871564300. A powerful photographic look at what people own and treasure all over the world.

Levine, Ruth, *Millions Saved: Proven Successes in Global Health*, Center for Global Development, ISBN 088132372. Seventeen compelling stories written for lay readers, about how efforts to improve health in developing countries saved millions of lives.

Hollyer, Beatrice, *Wake Up World!, A Day in the Life of Children Around the World*, Henry Holt & Co., ISBN 0805062939.



*if the world were a village of 100 people, 82 would have access to a source of clean water. ...40 people in the village would have, ...malaria, and eight additional people would get it every year.*

for students. In 1989, I wrote a book called *If The World Were A Village*. In it, I framed 20 global issues in terms of a fictitious village of 100 people. For example, if the world were a village of 100 people, 82 would have access to a source of clean water. In terms of disease, about 40 people in the village would have, or would have had, malaria, and eight additional people would get it every year. Reducing phenomena of global proportions to a comprehensible scale is an excellent exercise in sense-making. The numbers associated with such issues are so large that many facts are hard to grasp. The village metaphor is a tool students can use to make meaningful comparisons and more easily comprehend compelling global issues.

Social studies can instill in students a global consciousness that stems from understanding one's own community in light of others. To this end, global health offers a potent lever for raising students' global awareness. For example, in terms of health, communicable diseases know no borders—air travel can quickly bring disease to our doorsteps. In terms of economic wellbeing, our prosperity is tied to the rest of the world. In terms of global security, healthy people build strong economies, stable nations, and a safer world. In terms of basic human rights,

everyone deserves to live free of the burden of disease. In terms of equity, we know how to prevent or treat many common diseases, yet not everyone benefits from this knowledge equally.

When students leave our classrooms, we want them to have a sense of how their community is connected to everyone else's. Studying global health can alert them to issues that are truly pivotal and can bring globalization home—literally—in powerfully personal ways. Young people have a strong sense of fairness, which, when sparked, can motivate them to make a difference. They also have lots of energy and enthusiasm. Thus, the goal of improving global health taps into young people's idealism, enthusiasm for making a difference, and desire for a more stable, equitable world. Once students grasp the many ways other countries' health issues affect them, they will look at the world differently and may be motivated to take action and make a real difference. 🌍

**DAVID J. SMITH** taught seventh grade social studies for 26 years. He developed the geography curriculum called *Mapping the World by Heart*, published by Scholastic, and is the author of the award-winning *If The World Were A Village*. He maintains a website at [www.mapping.com](http://www.mapping.com).