FOOD FOR THOUGHT

introduction

There is an old saying that "geography is destiny." In our interconnected, global society it may seem that this is no longer true. When it comes to indicators of quality of life, though, there are still rather stark contrasts among areas of the world. This is especially evident between more developed regions and less developed regions when it comes to health, education, resource availability and use, relative wealth, and population pressures. While living standards continue to improve in much of the world, there are still nearly 1 billion people who live on less than two dollars per day in regions where life expectancy is less than 60 years. Meanwhile, in the richest nations, life expectancy tops 80 years and the average household lives on more than 100 dollars per day. Such disparities can encourage migration from areas with less opportunities to those with more. In looking at demographic and quality of life data, it is clear that the issues of population growth, education, life expectancy and resource use are intertwined, and these relationships must be explored when analyzing the health and well-being of the world's people.

Vocabulary: quality of life, slums

materials

- Yarn
- Masking tape
- Ambassador Cards (provided)
- 135 individually wrapped candies
- 103 matches or birthday candles
- 10 sealable bags

Note: This activity is well-suited for a class-size group as well as a much larger group like an entire grade or school. For a more visual experience, take a look at the Possible Additions section at the end of the activity. Ideas for props to use through the sections are provided.

preparation, the night before

1. Measure the yarn for each region according to the chart on page 2. Use a different color yarn for each region or, if you only have one color, make a tag to label each piece with the name of the region whose perimeter it will represent.



concept

Population and resources are distributed inequitably around the globe and these inequities impact quality of life.

objectives

Students will be able to:

- Identify indicators that can determine the relative well-being of a country or region.
- Determine potential impacts of inequitable resource distribution.
- Draw connections between population growth rate and several quality of life indicators (including wealth, health, education and energy use).
- Summarize and communicate their opinions on how to best address global inequality.

subjects

AP Human Geography, Geography, Statistics, Economics, Government

skills

Analyzing data, critical thinking, identifying trends, comparing and evaluating, communicating reasoning

method

Acting as residents of five major world regions, students compare various statistics that affect people's health and well-being.

- 2. Count out the number of individually wrapped candies required for each region and bag them. Hershey's Chocolate Kisses[™] work well. Label the bags according to the chart and tape the appropriate label to each bag. Do the same for the matches. (Birthday candles can be substituted for matches.)
- 3. Read through all the Discussion Questions and make notes to yourself about links to local, national, and international current events; seeing such ties between the activity and the real world will dramatically enhance the meaning the students glean from the exercise. As much as possible, you'll want to encourage students to make observations, critically evaluate the demographics, and hypothesize on possible relationships between the statistics. Your students will likely start a discussion of these issues themselves but if they don't, the Discussion Questions will help stimulate and/or direct class discussion. Because of the large amount of information in each section, it's best to discuss each group of statistics while they're fresh in the students' minds, rather than saving all discussion for the end.

set up, just before class period begins

1. Arrange the yarn on the floor to represent the regions and tape it in place.

| Region Information Chart | | | | | | | | | |
|--|---------------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|--------------------------------------|--|--|--|--|
| | Northern America | Latin America | Europe | Africa | Asia | | | | |
| 2020 Population in millions ¹ | 368 | 651 | 747 | 1,338 | 4,626 | | | | |
| Population distribution | 4% | 8% | 10% | 17% | 59% | | | | |
| Sample yarn lengths (in ft) | | | | | | | | | |
| with 25 participants with 50 participants with 100 participants with 200 participants | 25 | 25 | 27 | 30 | 31 | | | | |
| | 36 | 36 | 38 | 42 | 44 | | | | |
| | 50 | 50 | 54 | 60 | 62 | | | | |
| | 71 | 71 | 77 | 85 | 88 | | | | |
| Region's percent of world land area ² | 14% | 15% | 17% | 23% | 24% | | | | |
| Per capita energy consumption ³ 1 Match/candle = 1 Barrel of oil Access to electricity ⁴ | 53 matches | 10 matches | 26 matches | 3 matches | 11 matches | | | | |
| | Universal access to electricity | 98% have access to electricity | Universal access to electricity | 56% have access to electricity | 95% have access to electricity | | | | |
| Per capita GNI ⁵ in purchasing power parity | 62 candies | 16 candies | 39 candies | 5 candies | 13 candies | | | | |
| 1 Candy = \$1,000 | \$62,327 | \$15,944 | \$38,709 | \$4,820 | \$12,810 | | | | |

2. Hide the bags of candies and matches in a larger, opaque bag. Place the bag within easy reach of where you'll be standing as you lead the activity.

procedure

1. While students are still seated, read or paraphrase the following introduction:

"All societies need natural resources such as land and energy, but the ways in which various societies use these things can differ greatly. For example, a small population may use an enormous amount of farmland or gasoline compared to the amounts used by other, much larger populations. This creates 'have' and 'have not' societies with potential for human discomfort and social conflict."

- 2. Appoint five students to be the "ambassadors" for the world regions. Give each their Ambassador Card and direct them to their regions.
- 3. Populate the regions with the rest of the students, according to the "Population distribution" row of the Region Information Chart. Given the length of the demonstration, you may wish to have students sit, rather than stand, in their regions.

This simulation takes most of the world's 7.8 billion people and divides them into five groups, the five regions. It is important to note that the data points represent averages for the regions but there's immense variety in the life circumstances of individual households, communities, and countries.

Note: You may want to create a "United Nations Advisory Committee" with a small group of students. These students will not join a region, but instead observe the simulation and provide their opinions as a neutral party later in the activity. They should be thinking in terms of whether the inequities between each region's share of population/food/income are problems, and if so, what policies could lead to solutions.

4. Identify each region by name for the class.

Note: The regions in this simulation are those defined by the United Nations, and therefore Mexico and the Caribbean are included in Latin America, Russia is part of Europe, and countries in the Middle East are with Asia. The sixth world region, Oceania, is not included because its population is so small relative to the others that it cannot be accurately represented (0.5 percent of world population).

- 5. Explain that the dimensions of their regions are to scale, and the number of students within each region is proportional to its actual population; the idea is to show relative population density in each area.
- 6. For each of the sections that follow **Population Demographics**, **Quality of Life**, **Land Use Patterns**, and **Energy Consumption and Wealth** use this basic procedure:
 - I. Go over the terms in the section. You may want to have these written on a PowerPoint slide or whiteboard (download pre-made PowerPoint slides <u>here</u>).
 - II. Go over the world statistics for the section.
 - III. Offer any supplemental information provided.
 - IV. For the first three sections (Population Demographics, Quality of Life, and Land Use Patterns) call on the ambassadors, one at a time, to read their region's respective statistics. A sequence that works well is: Northern America, Latin America, Europe, Africa, and Asia. (The last section, Energy Consumption and Wealth, has a different set of instructions.)
 - V. Go over the Discussion Questions.

Note: There are quite a few statistics presented in this simulation. To be most impactful, you may want to select some, rather than all, for the ambassadors to read. You could also consider doing the simulation over two class periods to focus on certain statistics each day.

Population Demographics

I. Terms

- A. Population: The number of people living in a region.⁶
- **B. Birth Rate:** The number of births per 1,000 people per year.⁷
- C. Death Rate: The number of deaths per 1,000 people per year.8
- **D. Rate of Natural Increase:** Growth caused by having more births than deaths in a year (does not include immigration or emigration).⁹
- **E. Doubling Time:** The number of years it will take a population to double in size if it maintains its current growth rate.

II. World Statistics

- a. The world population is 7.8 billion.¹⁰
- b. The birth rate is 19 per 1,000.11
- c. The death rate is 7 per 1,000.12
- d. The world's annual growth rate is 1.1 percent.
- e. At this rate the world's population would double to over 15 billion in 63 years.

III. Supplemental Information

Regarding population growth rates:

- A population grows whenever its birth rate is higher than its death rate.
- The growth rate is determined by the size of the difference between the birth and death rates. The closer these rates are, the lower the growth rate.
- Where birth and death rates are equal, the population's growth rate is zero.
- The world's current birth rate is two and a half times its death rate.

IV. Ambassadors Read Statistics A-E from their Cards

V. Discussion Questions

1. What would it mean for a population double? What would be needed to provide for all those people?

The population would need more of everything people need to live: food, land to grow crops, roads, schools, hospitals, houses, clean water, energy, etc.

2. If a population grows quickly and infrastructure (like water and energy supply, sanitation systems, and housing availability) can't keep up, what might be the consequences? What role should the government have in addressing this issue?

A rapidly growing population, and lack of political will or sound policies to aid the population, make it difficult to provide basic infrastructure, often leading to the development of informal settlements and **slums**. People living in slums are susceptible to unemployment, insecure housing, and inadequate medical care. According to the United Nations, while the percentage of the urban population living in slums has decreased over the last few decades, the absolute number of people living in slums is rising. In 2014, 1 in 8 people, 881 million total, lived in slums.¹³ Orangi Town, on the outskirts of Pakistan's capital, Karachi, is one of the world's most populous slums with between 1.5 to 2.4 million people.¹⁴ Inadequate sanitation and unsafe water can impact a community's health, and insufficient energy can affect all aspects of daily life from health and education to transportation services and economic productivity.

3. Asia's doubling time is 70 years. If we returned in 70 years and did this exercise again, would we be able to fit twice as many people into Asia's space?

If you facilitate this activity with a full class, it would be nearly impossible to fit double the number of people in the circle representing Asia.

Quality of Life

- I. Terms
 - F. Literacy Rate: The ability of an individual to read and write, with understanding, a simple short statement related to his/her everyday life.¹⁵
 - G. Total Fertility Rate: The average number of children a woman will have in her lifetime.¹⁶
 - **H. Infant Mortality Rate:** The yearly number of children who die before reaching the age of one year per 1,000 live births.¹⁷
 - I. Life Expectancy: The average number of years a person born today could expect to live.¹⁸
 - J. Access to Improved Sanitation: Percentage of population with access to improved sanitation facilities that hygienically separate sewage from human contact.¹⁹
 - K. Nurses and Midwives: The total number of people for every one nurse or midwife by region.²⁰

II. World Statistics

- f. Of the world's adult population (15+), 90 percent of males and 83 percent of females are literate.²¹
- g. The world's women bear an average of 2.3 children.²²
- h. The world infant mortality rate is 31 per 1,000.23
- i. The average human life expectancy at birth is 73 years.²⁴
- j. 85 percent of the world's urban population and 59 percent rural population have access to improved sanitation.²⁵
- k. On average, there is one nurse or midwife per 274 people in the world.²⁶

III. Supplemental Information

Disease rates are also indicators of a region's quality of life. Worldwide, 0.8 percent of the 15-49 year old population live with HIV/AIDS. In sub-Saharan Africa, 3.9 percent of the 15-49 year old population is infected with HIV/AIDS. This significantly affects the labor force and child care in the region.²⁷

IV. Ambassadors Read Statistics F-K from their Cards

V. Discussion Questions

1. Can you see any connection between Africa's relatively high infant mortality rate of 49 per 1,000 (almost 1 in 20) and its high total fertility rate of 4.4 children per woman?

When people know each of their children has almost a 5 percent chance of not surviving to adulthood, they will have more children to increase the likelihood that some will survive. This is especially crucial for people living in societies where there is no social security, no retirement plans, and where the elderly are entirely dependent on their children for care and financial support. Additionally, the lack of access to family planning that impacts fertility rates also correlates with a general lack of access to health care. So not only are women having more children, but those children lack health care and are at higher risk.

- 2. Infant mortality rates are consistently lower where girls have access to higher education. Is this coincidental, or is there a connection here? What abilities and/or knowledge do educated people have that might be useful to them as parents?
 - Literacy (including reading and basic math) Parents with these abilities can: read directions, such as appear on over-the-counter medicines and infant formula, educate themselves about child development and care, and get better jobs and earn more money.
 - Health/Biology Raises awareness of how to take good care of themselves and their children, including the importance of good nutrition and medical care.
- 3. In regions where girls receive more years of education, the fertility rate is lower. Why might that be the case?

Educated women stay in school longer and marry later. With greater education, they have more opportunities to work outside of the home and thus, tend to have fewer children.

4. What do indicators like a high infant mortality rate and low life expectancy say about the quality of life in a region? What are some possible causes?

Answers may include: food that's insufficient in quantity or nutritional value, lack of clean water, inadequate medical care, exposure to high levels of pollution, and war or political violence.

5. Demographers use the <u>Demographic Transition Model (DTM)</u> to explain the shift that occurs as countries develop from high fertility and rapid population growth to low fertility and stable population. What are some quality of life factors which impact a country's fertility rate and as a result, their DTM stage?

Access to education (especially for females), a decrease in infant mortality rates and overall increase in life expectancy, better sanitation and higher access to medical care all contribute to falling fertility rates and can help a country progress through the DTM.

Land Use Patterns

I. Terms

- L. Urban Population: Percentage of the total population living in areas termed urban by that country (typically towns of 2,000 or more or in national or provincial capitals).²⁸
- **M.Arable Land:** Farmland; land capable of growing crops. Here it is expressed in terms of acres of land per person. An acre is about the size of a U.S. football field.²⁹

II. World Statistics

l. 56 percent of the world's population (about 4 billion people) live in urban areas.³⁰ m. There are 0.4 acres of arable land per person on Earth.³¹

III. Supplemental Information

Regarding Urbanization:

- The rate of urbanization is changing rapidly, as more and more people move to cities worldwide.
- In the developing world, about half of the population lives in urban areas. While urbanization has traditionally been associated with increased industrialization and employment opportunities, many megacities in developing countries lack a strong economic foundation upon which to base growth. As the population grows, the economic, social, and environmental problems in these cities will also grow if there is not sufficient political will, policies, urban plans, and equitable ways to sustainably address these new challenges.

Regarding Arable Land:

• The lowest authoritative estimate of the minimum amount of arable land required to feed one person without intensive use of synthetic fertilizers is 0.17 acres.³² (This doesn't include crops for textiles or cash crops needed for income.)

IV. Ambassadors Read Statistics L and M from their Cards

V. Discussion Questions

1. How will population growth affect the amount of arable land available per person?

When people share a limited resource such as arable land, each person's share of that resource becomes smaller in direct proportion to the number of additional people using it.

2. What would it mean for a country to have its amount of arable land per capita fall below the minimum required to grow enough food to sustain its population?

Such a country would become dependent on imported foods, making it vulnerable to price hikes and shortages. Trade policies can also affect a country's dependence on imported food. 3. What do you think usually causes people to move to cities?

The shift of jobs from agriculture to industry and services, leading to a concentration of economic opportunities in urban areas.

4. What are some possible positive and negative effects of having such large proportions of countries' populations shifting to urban areas?

Possible positive effects:

- More green space is left open for farmland, forests, and wildlife.
- Well-planned cities can offer more job opportunities and better public services and living conditions.
- Better access to educational opportunities.

Possible negative effects:

- Higher rates of unemployment and poverty if a city's population grows faster than jobs are created.
- If infrastructure doesn't keep pace with population growth, slums can form with congested streets, air and water pollution, overcrowded schools, and insufficient health care services.

Energy Consumption and Wealth

In this last section, ambassadors will no longer be reading. Instead, you will be distributing the bags of matches and individually wrapped candies. Go through the following steps.

I. Terms (explain the symbolism of the props)

Regarding the matches:

- Energy Consumption: The total amount of energy used by each region per year divided by the number of people living in that region (includes industrial use).³³ Access to electricity refers to the percentage of the population who have electricity in their homes.
- While energy is generated in many ways, including wood, coal, biomass, natural gas and nuclear power, in this activity, all these sources have been combined and are expressed in terms of barrels of oil equivalent.
- The matches represent the average amount of energy consumed by each resident of each region in the course of a year.
- One match = one barrel of oil. One barrel contains 42 gallons.

Regarding the individually wrapped candies:

- Gross National Income (GNI): A measure of a nation's wealth, GNI is the total domestic and foreign output claimed by residents of a country. Here it is expressed per capita (dividing the total GNI by the region's population) and Purchasing Power Parity (PPP) taking into account the different price levels and costs of living.³⁴
- The candies represent the amount each person would get per year if their region's annual GNI was divided equally among all its residents and adjusted for relative purchasing power, expressed here in U.S. currency.
- One candy = \$1,000.

II. Distribute Bags to Ambassadors

Start with the region with the smallest amount and work up to the region with the largest amount.

- Hold each bag up high so the whole class can see it.
- From the labels, have the ambassador read their region's quantity aloud.

III. Discussion Questions

1. What would it mean to live somewhere that didn't have regular access to electricity? How would that affect your day-to-day life? How would it affect a community's ability to provide for its residents?

Answers may include: lack of electricity would impact how you cook, access to fresh food, ability to do school work, ability to access information online and through mass media, healthcare services at clinics and hospitals, manufacturing, and transportation.

2. What would it be like in this room if we lit all these matches/candles? Who would have to breathe all that smoke?

The room would fill with smoke, smell of sulfur, and it might be hard to breathe. Everyone would breathe the smoky air.

3. Where would most of the smoke be coming from?

Students might initially point to Northern America and its 53 matches/candles. Remind them that the statistics are per capita and give them time to change their answer. The largest percentage of smoke would be coming from Asia. The actions of individuals are an important part of any discussion on resource consumption but so is population – the number of people taking part in the action.

Individual, or per capita, energy consumption differs significantly among countries. On average, one American consumes around as much energy as 2 people from Spain, 3 from China, 5 from Brazil, 10 from Bolivia, 14 from India, 70 from Haiti, or 152 from Madagascar.³⁵

4. If the ambassadors distributed the candy to their residents who then ate the candy, which region would generate the most empty wrappers?

Asia, as a whole, would generate the most wrappers. North Americans would generate the most per person.

The amount of solid waste an individual generates every day varies quite a lot from county to country. The average person in the U.S. generates 4.1 pounds each day, compared to the average person in the U.K. generating 2.9 pounds/day and in Japan 2 pounds/day.³⁶

- 5. Why do you think there is such a big difference in relative wealth? What do you think about the difference? (The Northern American ambassador is holding nearly five times as much candy as the Asian ambassador and 12 times as much candy as the African ambassador.)
- 6. What, if anything, does the Northern American ambassador want to do about it? What do other ambassadors want to do about it?

7. Remind students that each region's GNI represents per capita wealth and tell them to imagine that everyone in their region is holding as much wealth as their region's ambassador. In reality, would everyone in your region be holding the same amount of wealth? In other words, is the wealth actually distributed equitably within the region?

No. There are large wealth gaps both within regions and individual countries. The United States has one of the largest wealth gaps of any country in the world. In many countries, the divide between rich and poor has gotten wider in recent decades. Wealth inequality is a global issue in both higher and lower income countries. Wealth inequality is measured by the Gini Index, a number ranging from 0 (completely unequal) to 1 (perfect equality).

8. How could/do people from regions with less wealth and opportunity get access to those things?

Answers may include: migrating to places/countries with more opportunities, being connected to those in power, or receiving aid from relatives in other countries.

- 9. Invite students to migrate or ask for/offer aid.
 - a. How will the wealthier regions decide if and where they will offer foreign aid? What, if any, conditions will you impose on nations receiving your help? Will you trust the countries receiving money from you to put it to good use, or will you attempt to control what is done with it?

Answers will vary.

b. If you're a less wealthy region, how do you feel about having to agree to certain conditions (for example, privatizing public services, reducing your national spending on certain areas, or trade barriers being removed) if you accept aid? Do you think this is fair?

Answers will vary.

c. How will the less densely populated regions decide from which countries they will accept immigrants? What, if any, conditions will you impose on people seeking permission to immigrate? Will you accept only very well-educated people or people with a certain cultural or religious background, or will you base your decision on need – giving preference to those with the least opportunity in their home countries? Or those suffering political persecution? Or refugees from war-torn nations? What about those displaced by natural disasters or ongoing issues fueled by climate change, like drought? Or would it be based solely on numbers, first-come, first-served?

Answers will vary. This may spark conversation around current events or current immigration policy.

Note: Check out the Population Education blog on tips for covering sensitive topics in the classroom for support with these discussions: <u>Covering Sensitive Topics in the Classroom</u>.

alternate procedures

The following props can be used to create a visual representation of the statistics in each section as they are being discussed. For each, hold up the "whole" prop alongside a region's prop to show the difference between 100 percent and the reality (e.g. hold up a whole paper towel roll alongside each region's representative paper towel roll).

| | Northern America | Latin America | Europe | Africa | Asia |
|---|--|--|--|--|--|
| Access to improved sanitation – Clear bucket of water filled to represent different percentages of improved sanitation | full bucket 100% urban 100% rural | 4/5 full bucket 91% urban 70% rural | nearly full bucket 98% urban 96% rural | between 1/3 and 1/2 full bucket 53% urban 33% rural | 3/4 full bucket 84% urban 67% rural |
| Nursing and midwifery personnel – Band-aids to represent nurses and midwives per region population | 7 band-aids 1 midwife- nurse/72 people | 2 1/2 band-aids 1 midwife- nurse/201 people | 4 1/2 band-aids 1 midwife- nurse/114 people | 1/2 band-aid 1 midwife- nurse/889 people | 1 1/3 band-aids 1 midwife- nurse/394 people |
| Urban population – Hold up paper towel roll* cut to size to represent percentage of urban population from roll | 9 inches 82% | 8 3/4 inches 79% | 8 1/4 inches 75% | 4 3/4 inches 43% | 5 1/2 inches 51% |
| Arable land – Sheet of green paper representing acres of arable land per person | 1 1/3 sheets 1.3 acres | 2/3 sheet 0.6 acres | 1 sheet 0.9 acres | 2/5 sheet 0.4 acres | 1/3 sheet 0.3 acres |

*Most paper towel roll tubes are approximately 11 inches long.

assessment

The simulation shows that there are stark contrasts among different parts of the world with respect to health, education, wealth, and energy use. Students write a journal entry outlining the following points:

- What surprised you about this simulation?
- What do you think should be done about the health, wealth, education, and energy inequalities in the world today? Why?
- How do you think your assigned geographic position (which region you were in) influenced what you think should be done?
- As our population grows, which issue (health, education, wealth, energy, land use, etc.) do you think is the most urgent for the world to address to ensure a sustainable future for everyone? Why?

follow-up activities

1. Students select one country from their region and use the <u>PRB Data Sheet website</u> to answer the following questions:

The dependency ratio is the ratio of people in the work force (working age population) compared to those that are not (people younger than 15 and older than 65).

- What is your country's rate of natural increase (RNI)?
- Determine what percentage of your country's population is younger than 15 and older than 65 by adding these two percentages together.
- Is a larger percentage of your country's population working age or outside of working age?
- How do you think your country's growth rate (RNI) impacts the dependency ratio in your country?

The net migration rate is the difference between the number of people entering a country (immigration) and those leaving (emigration). Positive net migration means more people are entering a country than leaving. Negative net migration means more people are leaving a country than entering.

- What is your country's net migration rate?
- What is your country's fertility rate, infant mortality rate, and life expectancy?
- How do you think these three factors impact your country's net migration?
- 2. Students select one country from their region and visit the <u>PRB Data Sheet website</u> to explore a variety of data from the country. Ask students to do one of the following:
 - Pretend you are the leader of the country. What policies would you enact or initiatives would you begin to most benefit your citizens? Remember to consider what you learned during the regional comparison simulation. What other information about the country would be helpful to know?
 - Answer the question: Based on what you learned during the simulation, what do these statistics tell you about your country?
 - Pair up with a classmate with a different country from the same region. Share a summary and analysis of your country using the PRB data and what you learned in the regional comparison simulation. Together with you partner, look for similarities and differences in the trends and patterns within your two countries.

^{1,5-12,16-18,22-24,30,34} Population Reference Bureau. (2020, July). 2020 World Population Data Sheet. [Wall chart]. Washington, DC: PRB.

^{229,31} Food and Agriculture Organization of the United Nations Statistics Division (2017). Land. [Data set]. Retrieved July 22, 2020 from http://www.fao.org/faostat/en/#home

^{3,33,35} Energy Information Agency. (2017). Total International Energy Consumption. [Data set]. Retrieved September 1, 2020 from https://www.eia.gov/

⁴The World Bank. (2020). Access to electricity (% of population). [Data set]. Retrieved September 1, 2020 from <u>https://data.worldbank.org/indicator/</u> <u>EG.ELC.ACCS.ZS</u>

¹³ UN Habitat. (2016). World Cities Report 2016: Urbanization and Development - Emerging Futures. Retrieved from https://unhabitat.org/sites/default/files/download-manager-files/WCR-2016-WEB.pdf

¹⁴ Hutt, R. (2016, October 19). These are the world's 5 biggest slums. *World Economic Forum*. Retrieved from <u>https://www.weforum.org/agenda/2016/10/</u> these-are-the-worlds-five-biggest-slums/

^{15,21} UNESCO Institute for Statistics. (2018). Education: Literacy Rate. [Data set]. Retrieved July 22, 2020 from http://data.uis.unesco.org; Organization for Economic Cooperation and Development (OECD). (2013). OECD skills outlook 2013: First results from the survey of adult skills. Paris: OECD Publishing. Retrieved from https://data.uis.unesco.org; Organization for Economic Cooperation and Development (OECD). (2013). OECD skills outlook 2013: First results from the survey of adult skills. Paris: OECD Publishing. Retrieved from https://dx.doi.org/10.1787/9789264204256-en

^{19,25} WHO/UNICEF Joint Monitoring Program for Water Supply, Sanitation, and Hygiene. (2017). *Progress on household drinking water, sanitation and hygiene* 2000-2017. Retrieved from <u>https://www.unwater.org/publications/whounicef-joint-monitoring-program-for-water-supply-sanitation-and-hygiene-jmp-progress-on-household-drinking-water-sanitation-and-hygiene-2000-2017/</u>

^{20,26} World Health Organization. (2018). Global Health Observatory Data Repository. *Aggregated Data: Absolute numbers by country, number of nursing/midwife personnel,* 2014-2018. [Data set]. Retrieved August 5, 2020 from https://apps.who.int/gho/data/node.main.HWFGRP_0040?lang=en

²⁷The World Bank, World Development Indicators. (2018). *Prevalence of HIV, total (% of population ages 15-49)*. [Data set]. Retrieved October 18, 2020 from https://datacatalog.worldbank.org/dataset/world-development-indicators

²⁸ United Nations Population Division. (2014). World Urbanization Prospects, 2014 Revision. Retrieved from https://esa.un.org/unpd/wup

³² Engelman, R. & LeRoy, P. (1995). Conserving Land: Population and Sustainable Food Production. Washington, DC: Population Action International.

³⁶ Environmental Protection Agency (2020). National overview: Facts and figures about materials, waste and recycling. Retrieved from <u>https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/national-overview-facts-and-figures-materials</u>; Sensoneo. (2019). *Global waste index 2019*. Retrieved from <u>https://sensoneo.com/sensoneo-global-waste-index-2019/</u>

Northern American Ambassador Card

I am the Northern American Ambassador. Here are some statistics that shape my region of the world:

- A. Northern America's population is estimated at 368 million.
- B. Our birth rate is 11 per 1,000.
- C. Our death rate is 8 per 1,000.
- D. Our annual growth rate due to natural increase is 0.3%.
- E. At this rate, our population would double in 231 years.
- F. Of the adult population 15+ years old, 96% of the males and 96% of the females are literate.
- G. Northern American women bear an average of 1.7 children.
- H. Our infant mortality rate is 6 per 1,000.
- I. Our life expectancy at birth is 79 years.
- J. 100% of our urban and 100% of our rural population has access to adequate sanitation facilities.
- K. On average, there is one midwife or nurse per 72 people.
- L. The percentage of our people living in urban areas is 82%.
- M. Acres of arable land available per person: 1.3 acres.

Latin American Ambassador Card

I am the Latin American Ambassador. Here are some statistics that shape my region of the world:

- A. Latin America's population is estimated at 651 million.
- B. Our birth rate is 16 per 1,000.
- C. Our death rate is 6 per 1,000.
- D. Our annual growth rate due to natural increase is 1%.
- E. At this rate, our population would double in 70 years.
- F. Of the adult population 15+ years old, 94% of the males and 93% of the females are literate.
- G. Latin American women bear an average of 2 children.
- H. Our infant mortality rate is 14 per 1,000.
- I. Our life expectancy at birth is 76 years.
- J. 91% of our urban and 70% of our rural population has access to adequate sanitation facilities.
- K. On average, there is one midwife or nurse per 201 people.
- L. The percentage of our people living in urban areas is 79%.
- M. Acres of arable land available per person: 0.6 acres.

European Ambassador Card

I am the European Ambassador. Here are some statistics that shape my region of the world:

- A. Europe's population is estimated at 747 million.
- B. Our birth rate is 10 per 1,000.
- C. Our death rate is 11 per 1,000.
- D. Our annual growth rate due to natural increase is -0.1%.
- E. At this rate, our population would not double, and would actually shrink.
- F. Of the adult population 15+ years old, 99% of the males and 99% of the females are literate.
- G. European women bear an average of 1.5 children.
- H. Our infant mortality rate is 4 per 1,000.
- I. Our life expectancy at birth is 79 years.
- J. 98% of our urban and 96% of our rural population has access to adequate sanitation facilities.
- K. On average, there is one midwife or nurse per 114 people.
- L. The percentage of our people living in urban areas is 75%.
- M. Acres of arable land available per person: 0.9 acres.

African Ambassador Card

I am the African Ambassador. Here are some statistics that shape my region of the world:

- A. Africa's population is estimated at 1,338 million (1.3 billion).
- B. Our birth rate is 34 per 1,000.
- C. Our death rate is 8 per 1,000.
- D. Our annual growth rate due to natural increase is 2.6%.
- E. At this rate, our population would double in 27 years.
- F. Of the adult population 15+ years old, 74% of the males and 60% of the females are literate.
- G. African women bear an average of 4.4 children.
- H. Our infant mortality rate is 49 per 1,000.
- I. Our life expectancy at birth is 64 years.
- J. 52% of our urban and 32% of our rural population has access to adequate sanitation facilities.
- K. On average, there is one midwife or nurse per 899 people.
- L. The percentage of our people living in urban areas is 43%.
- M. Acres of arable land available per person: 0.4 acres.

Asian Ambassador Card

I am the Asian Ambassador. Here are some statistics that shape my region of the world:

- A. Asia's population is estimated at 4,626 million (4.6 billion).
- B. Our birth rate is 17 per 1,000.
- C. Our death rate is 7 per 1,000.
- D. Our annual growth rate due to natural increase is 1%.
- E. At this rate, our population would double in 70 years.
- F. Of the adult population 15+ years old, 90% of the males and 81% of the females are literate.
- G. Asian women bear an average of 2 children.
- H. Our infant mortality rate is 27 per 1,000.
- I. Our life expectancy at birth is 73 years.
- J. 84% of our urban and 67% of our rural population has access to adequate sanitation facilities.
- K. On average, there is one midwife or nurse per 394 people.
- L. The percentage of our people living in urban areas is 51%.
- M. Acres of arable land available per person: 0.3 acres.