

Five Regions Simulation: Teacher Instructions

World History & Geography 2 Rev. 2/25/11

Introduction:

This simulation employs physical space, objects, information, questions, charts, and graphs to help students better understand the physical and human characteristics of contemporary world regions.

On the levels of knowledge and understanding, this activity will help students gain a feeling for the relative sizes of five major regions of the world and their populations. Students will also examine arable land areas, birth and death rates, population growth, educational opportunity, fertility rates, infant mortality, and life expectancy across the five regions. Students will develop a chart, and they will use a chart to make graphs.

Students will be challenged to think about what they are learning by using new information to make comparisons and arrive at judgments regarding the unequal distribution of population and resources in the contemporary world.

This activity is based on a simulation prepared by Population Connection <http://www.populationconnection.org>. Our version includes some updated statistics, additional graphics, and supplemental learning activities. Also available from Population Connection are additional teaching materials including a superb 7-minute video called “World Population.”

Materials:

1. People (and chairs?)

This simulation is designed for 26 participants. If you have fewer students, chairs can substitute for students. If you have more than 26, excess students can be distributed proportionally to the five regions (preferable), or they may be designated as neutral observers who may be called upon to render opinions on the proceedings. Distribute people (and chairs?) thusly: North America 1, Latin America 2, Europe 3, Africa 4, Asia 16.

2. Cut 7 index cards into four sections each, fold the sections in half, and write a region on the inside of 26 pieces. The 26 region labels correspond to the distribution of 26 people identified above. The pieces will be drawn from a hat.

3. Rope or yarn

Approximately 140 feet of rope or yarn, preferably in five different colors. I bought clothesline and dyed it because it is more substantial than yarn or string. It won't break, and it stays put without being taped to the floor. If you don't wish to dye it, labels can be affixed designating the five regions. Prepare loops of rope or yarn in the following lengths: North America 25', Latin America 25', Europe 27', Africa 30', Asia 31'.

I joined rope ends with rabbit-pen clips (If you haven't raised rabbits, never mind.) Rope ends can no doubt be joined with a piece of wire encircling the rope ends and twisted tight with pliers -- maybe a couple of loops of wire per connection.

I also marked a length of each region's rope representing arable land area. The rope can then be looped over itself at the marks to indicate the relative proportion of arable land to non-arable land. Arable land: North America 2' 10", Latin America 1' 7-1/2", Europe 3' 5", Africa 1' 9", Asia 4' 10".

4. Region Information Cards (provided here).

One card for each region. I laminated mine with plastic to make them last.

5. Region ID Cards (provided here).

Print them, fold them in half to make a tent card, and punch holes at the top for a string to hang them.

6. 10 resealable plastic bags, quart or lunch size and a Sharpie-type indelible marker.

7. 108 wooden safety matchsticks distributed in five bags like this: North America: 60, Latin America 9, Europe 29, Africa 3, Asia 7. Label the bags with the marker. You might wish to seal these bags with tape.

8. 73 Hershey Kisses distributed in five bags like this: North America 29, Latin America 6, Europe 30, Africa 2, Asia 25. Each kiss represents half a trillion dollars of GNP. Label the bags. Keep all bags hidden but handy during the simulation.

9. Make a class set of copies of "Questions to Consider" (provided here).

10. "Day One Chart." (provided here) Depending on the kind of technology you are using, make an overhead transparency – or whatever -- of the chart with empty cells, or draw the chart grid on a chalkboard – or whatever. Write only the column and row headings.

11. Depending on class size, make 4 - 8 copies of "Day Two Chart and Assignment" (provided here). This sheet will be used in cooperative groups of about three to five students each. An overhead transparency of this page might also be helpful.

12. Make an overhead transparency of the map of regions (provided here). As per a United Nations designation, Mexico is included in Latin America, not in North America.

PROCEDURE

Preparation

1. Get all materials together.

You will have to resupply the Hershey Kisses for each new enactment of the simulation, but all other materials can be reused.

2. If using a chalkboard, draw the empty “Day One Chart” on the chalkboard. Include only the column and row headings. Students will complete the rest.

Begin the activity

3. Introduce the activity.

Population Connection recommends telling students up front that this simulation will disclose inequality in world societies. I prefer to let students discover this reality on their own as the simulation unfolds. In this way, the magnitude of world inequity becomes a discovery on the part of students rather than a case of the teacher saying “I told you so.” Students end up telling each other about it, instead of me telling them. I provide a minimal introduction something like this: **“This simulation is meant to help you better understand world demographics.”** (Demographics is explained later.)

4. Clear the space.

Depending on where you conduct the simulation, you might need to move desks or chairs against the walls.

5. Select students for the regions.

Remember those 26 note cards pieces with regions written on them? Have each student draw one from a hat. Send students to the area of the room where their region will be located.

If you don't have exactly 26 students, you will have to adjust. With fewer students, eliminate the appropriate number of pieces before conducting the drawing while trying to maintain rough proportions of people to region. Chairs will fill in for missing students. If you have more than 26 students, excess students may be distributed proportionately or assigned as observers. If students wish to sit on chairs during the simulation, have them bring chairs into their regions in addition to the empty chairs that may be representing missing people. Asia is supposed to be crowded.

6. Map. Use the overhead projector to display the map of the five regions of the world. This visual aid will help students mentally connect their regions to the actual regions of the world.

7. Give each region its loop of rope or yarn, and have students spread it out. Explain that the dimensions of the regions are to scale, and the number of students in each region is proportional to the actual population. This will give students an idea of the population density in each region.
8. Give each region an ID card to make it easy for everybody to identify the region. The tent card can be propped up on the floor, or on a chair, or hung around a chair or around somebody's neck with the string.
9. Give each region an Information Card.
10. Explain that students will have two writing assignments based on what they learn during the simulation, so each student should observe carefully and think about what is happening.
11. Give each student a copy of: "Regions Simulation: Questions to Consider." Students should complete questions 1-6 during the simulation. Students should complete the last two questions when they have time to reflect on what they have learned. Students might complete this sheet as homework.

Begin Sharing of Information

12. Items A through D - Population Demographics

"This simulation begins by looking at population demographics. Demographics is a long name that merely means statistics about people, like their age or income. Population demographics deal with statistics about populations in different regions. The first four items we will examine today involve population demographics. We will begin by looking at the population in each of our five regions."

(Begin with North America and continue with Latin America, Europe, Africa, and Asia in that order [smallest to largest population]. One student from each region reads Item A from the Information Card and writes the population number in the proper cell on the Day One Chart. Then a student from the next region does the same, and so on. After a student has done his or her duty, the Information Card is passed to another student in the region (if there is another student), and the next student will in turn read Item B, enter the statistic, and so on. Continue through Item D.

Some Definitions

Arable land: land that can be used for growing crops

Birth rate: Number of births per 1000 people per year

Death rate: Number of deaths per 1000 people per year

Annual growth rate: Births minus deaths per year. The growth rates here do not take into account immigration or emigration.

Doubling time: The time it will take for population to double if growth rates remain the same as now.

(Arable land: if you marked the arable land area on ropes, this would be the time to demonstrate the amount of arable land per region.)

Discussion: Direct this to the Asians: “It appears that Asia’s population might double in just 58 years. How would you like to be standing (or sitting) there in Asia if it had twice as many people as now?” (It would be pretty cozy.)

13. Items E through H - Quality of Life

“The next four items deal with quality of life issues, meaning, ‘How well do people live in these five regions of the world?’” We will begin this section by looking at Item E, Education.” (Follow the same procedures as in Items A - D above.)

Some Definitions

Fertility rate: The average number of children a woman will have in her lifetime

Infant mortality rate: The number of children who die each year before they reach one year old, per 1000 live births.

Life expectancy: The average number of years a person born today could expect to live.

Discussion: Why might women in Africa have more children than women in Europe? (Maybe because it would mean more hands to help with farm work.

Maybe because many people in Africa don’t have savings accounts or social security benefits, and they depend on their children to take care of them when they get old.

Maybe because the death rate is so high in Africa (nearly 10 percent), woman have more children to ensure that some of their children will survive.)

Discussion: Could there be a connection between education for women and lower infant mortality rates? Check the chart.

(Maybe educated women know more about good nutrition and medical care.

Maybe they have better jobs and earn more money, so they can take better care of their children.)

Discussion: If people live longer in North America, why is the death rate lower in Latin America? (Maybe because Latin America has a younger population, so not as many people die of old age.)

14. Energy Consumption

This is the first of two activities using the prepared plastic bags. For both activities, proceed in this order: Africa, Asia, Latin America, Europe, North America (least consumption to most).

Hold the bag high containing the 3 matchsticks for Africa. Explain:

“This bag has three matchsticks. It represents the average per capita (per person) energy consumption for each person in Africa. Although people use many different kinds of energy (such as wood, coal, gasoline, and electricity), energy consumption is measured in barrels of oil — the amount of energy that would be supplied by one barrel of oil. One barrel of oil contains 42 gallons.”

“Each matchstick in this bag represents one barrel of oil. Each person in Africa, on average, uses three barrels of energy per year.”

Give the bag to a representative from Africa. Ask students not to open these bags.

Hold up the next bag, for Asia. “This is Asia’s energy usage: 7 matchsticks. Each person in Asia averages 7 barrels of energy usage per year.” Continue with the remaining bags.

Discussion: What would it be like if we lit all these matches? Which region would produce the most smoke and pollution? Would the citizens of North America be the only people to breathe pollution generated by their 60 matches?

(No, all world regions are affected by North America’s pollution.)

15. Wealth

Hold up the bag containing 2 Hershey Kisses for Africa. Explain:

“This bag has 2 Hershey Kisses. It represents the total yearly wealth of Africa as measured by Africa’s Gross National Product or GNP. The Gross National Product is the total profits generated by all goods and services exchanged in Africa for one year.

“Each Hershey Kiss represents one half trillion dollars of Gross National Product. Africa’s GNP is about 1.2 trillion dollars a year, so Africa gets two Hershey Kisses.”

Give the bag to a representative from Africa, and tell the student to distribute the kisses evenly to each person in Africa (including the empty chairs). Ask the citizen how many Kisses each person gets.

Hold up the next bag for Asia. “This is Asia’s wealth. This bag has 25 Kisses representing 12.5 trillion dollars of Gross National Product. Give it to a citizen of Asia and tell the student to distribute the kisses evenly to each person in Asia. Ask how many Kisses each citizen gets. Continue with the remaining bags. (A trillion is a thousand billion.)

Encourage students to eat the Kisses and throw their trash on the floor, but not to litter somebody else’s region.

Discussion: What do people of Africa, Asia, and Latin America think about North Americans having so much wealth, when they have so little? What do they want to do about it? Ask the citizens of Europe and North America how they feel about having so much wealth, when others have so little. What do they want to do about it?

Discussion: Ask the citizens of North America and Europe if they would be willing to share some of their wealth (Kisses) with people from other regions.

Ask citizens of other regions if they would like to emigrate to Europe or North America to get some of that wealth.

If the parties are interested, ask representatives of Europe and North America what they want in return from citizens of other regions in order to allow immigration. (Perhaps immigrants could become slaves for a day, or share some of their lunch, or pick up the trash.)

If the parties agree, allow bargaining, immigration, and redistribution of wealth.

Question: Which regions of the world generated the most trash (in the form of Hershey Kisses wrappers)?

16. Conclusion of simulation activity.

Students return Information Cards, Region ID Cards, plastic bags, pick up trash, gather up the region ropes, and return tables and chairs to their usual locations. Teacher reviews with students the first six “Questions to Consider” and provides class time to complete the last two questions or assigns them as homework.

17. Follow-up to simulation activity on a following day.

Teacher hands back the graded “Questions to Consider” homework, and holds class discussion of the students’ findings with particular attention to Question 8.

Using the overhead projector, teacher displays the “Day Two Chart and Assignment.”

Discuss the chart with students, soliciting comments and answering questions. Teacher assigns students to cooperative groups (three to five students each) to complete the assignment during class time. After the groups are finished, they take turns presenting their results to the class.