

The Lion's Share

Teacher Directions

Student Activity

Answer Key

Method:

Students analyze a series of data tables related to income, population, relative wealth, consumption patterns, and family size. In the last part of this exercise, students analyze their own potential earnings and spending patterns based on research and the data provided.

Introduction:

The relationships between income, consumption, family size, and total population are complex. The following activities help students to examine the relationship between population and economic growth by examining the per capita **gross domestic product** (GDP) in countries around the world. Students will also examine how family size and income in North America are related to the amount of money each of us spends for food, shelter, transportation, and the many services and products that make our lives more comfortable.

Procedure:

Distribute copies of the student worksheet. After students have a chance to work through the questions, go over answers in class. The follow-up activity may be best assigned for homework.

Note: Gross domestic product (GDP) is defined on Part Two of the student worksheet. Students may be more familiar with the term GNP (gross national product), so you may want to explain to students that it is virtually the same thing. The only difference is that GDP measures economic activity within a country's borders, while GNP also includes a country's economic activity occurring in other countries. Both figures provide a good insight into the economic "might" of a country.

Suggested Answers for Student Worksheet

Part One:

- Housing and utilities
- \$8,616 on food per year; \$20,076 on housing and utilities per year
- \$15,453 per person; \$2,154 per person for food
- \$10,302 per person; \$1,436 per person for food

Part Two:

a. The United States has the highest GDP; Kenya has the lowest. The countries should be ranked as follows:

- | | |
|------------------|-----------------------|
| 1. United States | 7. Russian Federation |
| 2. China | 8. Saudi Arabia |
| 3. France | 9. Indonesia |
| 4. Canada | 10. Chile |
| 5. India | 11. Kenya |
| 6. Mexico | |

b. See the listing below for per capita GDP. This is calculated by dividing the country's GDP by its population. Note to students that the figures do not mean that each person receives this amount, since GDP involves more than wages paid and wealth is distributed unequally. However, GDP does tend to indicate the relative availability of goods and services in a particular country.



Concept:

Just as family size and income determine lifestyle, a country's population size directly relates to its per capita gross domestic product (GDP).

Objectives:

Students will be able to:

- Demonstrate how family size and income are related to the amount of money spent on necessities, goods, and services.
- Explain the relationship between a country's population size and its per capita GDP.
- Calculate a family's possible living expenses in the future, based on their goals and expectations.

Subjects:

Social studies, mathematics, economics, family and consumer sciences

Skills:

Data analysis, math calculations, research and preparation of a budget

Materials:

Copies of Student Worksheet

Key Terms: Gross domestic product (GDP)

Country	Per Capita GDP 2005 (in U.S. dollars)	Ranking
United States	\$41,890	1
China	1,713	8
India	736	10
Saudi Arabia	13,399	4
Kenya	547	11
Russian Federation	5,336	7
France	34,936	2
Chile	7,073	6
Indonesia	1,302	9
Mexico	7,454	5
Canada	34,484	3

c. See listing above for ranking; China moved down the most, followed by India, while Saudi Arabia and Chile both moved up four places in the ranking. The change in ranking indicates that straight GDP figures do not necessarily indicate how wealthy the average person in the country is likely to be. The countries which moved down had large GDPs but had to divide it among a very large number of people. The reverse is true for the countries that moved up in the ranking.

Part Three:

- Each country's GDP increased approximately 200% over the 20-year period (205% for Kenya; 197% for the U.S.).
- Kenya's per capita GDP was \$311 in 1985 and increased to \$547 in 2005 (76 percent increase); U.S. per capita GDP was \$17,532 in 1985 and increased to \$41,890 in 2005 (139 percent increase).
- These figures show that when population growth is also considered, increases in GDP for the whole country can be misleading. Also, the disparity between Kenya and the United States becomes more pronounced. When a country's population is growing at a faster rate than the GDP, a substantial increase in GDP will not mean more money for most individuals in that country.

Follow-up Activity:

As these activities indicate, population growth and economic growth do not necessarily go hand in hand. Also, students should realize that population and economic growth rates are influenced by local and global factors. Have students bring in an article or articles about current economic, political, or social events in a particular country. The article can be about a specific event (such a flood or civil war) or about a general economic or social trend (for example, increased trade to South Africa or later marriage and childbirth among Indonesian women).

Have students look up the current GDP (or GNP) and population of the country featured in the article and determine the per capita GDP as they did in Part Two of the activity. Students could then examine the article in light of the per capita GDP and write a report predicting whether the reported event or trend will affect future population and economic growth in the country and what those effects might be.

For a longer project, students could collect articles over a period of time or conduct more in depth research on a country before writing their reports.

Assessment Ideas:

The students' answers to the student worksheet and writing assignments completed as supplements may serve as indicators of the students' work and comprehension.

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Student Worksheet

This activity is divided into four parts. In the first part, you will see how an average family in the United States spends its salaries. You will then calculate how much money is available for each family member if family size increases. In the second part, you will work with a chart showing the **gross domestic product (GDP)**: an economic indicator that measures the total market value of all goods and services produced by a nation's economy over a given period of time, usually a year) for several countries. From this chart, you will calculate the per capita GDP for each country. In the third part, you will examine one example of how GDP and population size relate to each other. Finally, you will plan a hypothetical budget for yourself.

Part One:

Look at the Monthly Budget chart below and analyze how this family spends its money. Answer the following questions:

- What item takes the largest percentage of the family income?
- The charts show figures for one month. How much does the family spend on food in a year? On housing?
- What is the average amount of money available to each family member in a year? How much does each member have for food in a year? (Assume that the money and food are divided equally among all family members even though children may actually consume less than adults.)
- If the family grew by two more children and the income remained the same, what would be the average amount of money available for each family member in a year? How much would each member have for food?

Monthly Budget for a Family of 4 (in 2005 dollars) ¹		
	% Income	Amount
Food	14	\$718
Housing and Utilities ²	32	\$1673
Transportation ³	19	\$963
Clothing	5	\$238
Health Care	4	\$232
Personal insurance, Pension, and Social Security	12	\$626
Other ⁴	14	\$701
Total	100%	\$5,151

Source: U.S. Bureau of Labor Statistics, Consumer Expenditure Survey Data, 2005, Table 2

¹ Based on the annual average income for a consumer unit (household) of four people in the United States in 2005 (\$78,183 before taxes).

² Includes shelter, fuel, utilities and public services, household operations, furnishings, and housekeeping supplies.

³ Includes vehicle purchases, gasoline and motor oil, other vehicle expenses, and public transportation.

⁴ Includes entertainment, personal care, reading, education, tobacco and smoking supplies, alcoholic beverages, cash contributions, and miscellaneous expenditures.

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Student Worksheet

Part Two:

Review the chart below. GDP stands for gross domestic product, which is a measure of a country's goods and services (i.e. the wealth of the country).

- Which country has the highest GDP? The lowest? Rank the countries by putting a number next to their GDPs (1=highest, 10=lowest).
- Using the population figures on the chart, calculate the per capita GDP (i.e. each person's "share" of the GDP) for each country. Does this mean that each person in these countries receives the amount you calculated?
- Now rank the countries according to the per capita GDP. Which countries moved the most on the scale? What does their change in ranking indicate?

GDP and Population of Selected Countries, 2005					
Country	Gross Domestic Product (in U.S. currency)	GDP Rank (1+Highest)	Population	GDP Per Capita	GDP Per Capita (1+Highest)
United States	\$12,416,505,000,000		296,410,000		
China	2,234,297,000,000		1,304,500,000		
India	805,714,000,000		1,094,583,000		
Saudi Arabia	309,778,000,000		23,119,000		
Kenya	18,730,000,000		34,256,000		
Russian Federation	763,720,000,000		143,114,000		
France	2,126,630,000,000		60,873,000		
Chile	115,248,000,000		16,295,000		
Indonesia	287,217,000,000		220,558,000		
Mexico	768,438,000,000		103,089,000		
Canada	1,113,810,000,000		32,299,000		

Source: The World Bank, World Development Indicators Database

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Part Three:

Look at the chart below, which contrasts Kenya's GDP and population with the U.S. GDP and population.

- a. Notice that the GDP has increased for both countries. What was the percentage of increase in GDP for each country from 1985 to 2005?

$$\frac{(\text{GDP } 2005) - (\text{GDP } 1985)}{\text{GDP } 1985} \times 100 = \% \text{ increase in GDP}$$

- b. Calculate the per capita GDP at each time by dividing the population into the GDP for both countries for each year.
- c. Using this information, explain why a substantial increase in a country's GDP does not necessarily mean more money for most individuals living in that country.

KENYA

Year	GDP	Population
1985	6,136,000,000	19,761,000
2005	18,730,000,000	34,256,000

UNITED STATES

Year	GDP	Population
1985	4,180,700,000	238,466,000
2005	12,416,505,000,000	296,410,000

Source: The World Bank, World Development Indicators Database, www.worldbank.org; U.S. Census Bureau, International Database, www.census.gov.

Part Four:

The first chart you analyzed shows how two typical American households spend their money. Imagine that you are setting up your own household and are preparing your budget. Will you be married? Having children? Going to college? Sharing an apartment with friends?

After you decide on your hypothetical situation, look in the classified ads of your newspaper to see how much monthly rent you would have to pay for your house or apartment. Use the grocery ads to calculate your food bill for a month. Check your household's present utility bills to estimate the costs you may anticipate. Look at car ads and estimate monthly car payments, insurance, and gasoline, or calculate monthly bus or subway fare. Then add a figure for miscellaneous expenses such as medical bills, clothing, taxes, entertainment, etc. What is your monthly total?

As a last step, turn again to the newspaper and look in the employment section. Do any of the jobs for which you might be qualified provide enough money to meet your monthly bills?

As you do the above activity, divide expenditures into either necessities or luxuries. If your income were to be reduced, what items would you forego? Are they mostly items you listed as luxuries? Do you think people in countries with low GDPs spend the same percentage of their income for luxury items that you do?