

Population Growth – **Day 1**

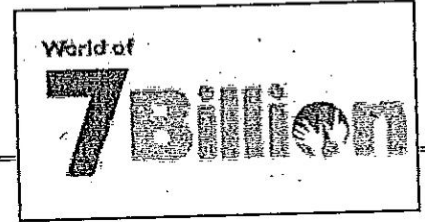
South Asia

Patterson/Smith

Pop Quiz

Name: _____

Block: _____



1. What is the world population in 2011?
a) 900 million b) 2.5 billion c) 7 billion d) 8.5 billion e) 12 billion
2. By how many people does the world population grow each year?
a) 11 million b) 25 million c) 45 million d) 83 million e) 160 million
3. If the world's population continues at its current rate of growth, approximately how long will it take to double?
a) 9 years b) 22 years c) 58 years d) 95 years e) 148 years
4. According to the United Nations, at what number is the population expected to plateau?
a) 5-7 billion b) 9-11 billion c) 13-15 billion d) 20-25 billion e) never
5. Which has NOT been a major cause of the population explosion?
a) an increase in birth rates b) modern preventive medicine c) improved sanitation
d) lower infant mortality e) longer life expectancy
6. Which of the following is likely to be affected by a population of seven billion?
a) amount of land for agriculture b) amount of clean water c) amount of energy used daily
d) number of people who are unemployed e) all of the above
7. Which country is the most populous in 2011?
a) India b) China c) United States d) Mexico e) Russia
8. Which country is projected to be the most populous in 2050?
a) India b) China c) United States d) Mexico e) Pakistan
9. Which region has the population with the highest fertility rate and the lowest life expectancy?
a) Southeast Asia b) Eastern Europe c) Latin America d) Sub-Saharan Africa
10. What percentage of the world's population lives on less than \$2 per day?
a) 26% b) 15% c) 48% d) 39%
11. Which of the following correctly ranks the top five carbon dioxide emitting countries in the world?
a) United States, China, Russia, India, Japan
b) China, United States, India, Russia, Japan
c) United States, China, India, Japan, United Kingdom

Answers to Pop Quiz

1. What is the world population in 2011?

c) 7 billion

Note that world population figures are the best estimates demographers can make but are not precise counts.

2. By how many people does the world population grow each year? d) 83 million

To calculate how many people are added to the world population each year, multiply the total world population (7 billion) by the current growth rate (1.2% or 0.012), also called the natural rate of increase. In terms of population, we are adding another Germany each year.

3. If the world's population continues at its current rate of growth, approximately how long would it take to double? c) 58 years

The doubling time of any population can be calculated by dividing the "magic number" 70 by the annual percent of growth. The natural rate of increase is the growth rate excluding immigration or emigration. For the world, 70 divided by 1.2 equals approximately 58.

4. According to the United Nations, at what number is the population expected to plateau? b) 9-11 billion

There is a pretty large range, but the world population is expected to plateau somewhere between 9 and 11 billion people near the middle of this century. Of course, this depends on national policies and women's access to education and family planning.¹

5. Which has NOT been a major cause of the population explosion? a) an increase in birth rates

A decrease in death rates, rather than an increase in birth rates, has been the main cause of rapid population growth over the past 200 years. Improved nutrition and sanitation, and advances in the areas of medicine and agriculture all contributed to this decline.

7. Which of the following is likely to be affected by a population of seven billion? d) All of the above

Our planet only has a finite amount of resources for humans to use, and as the population continues to grow, pressure is placed on all of these resources. Increases in population to seven billion will cause

more job scarcity and unemployment, decreases in availability of water, and conversion of agricultural land into residential and urban areas.

7. Which country is the most populous in 2011?

b) China

In 2011, the five most populous countries are China (1.3 billion); India (1.2 billion); U.S. (311 million); Indonesia (238 million); and Brazil (196 million).²

8. Which country is projected to be the most populous in 2050? a) India

In 2050, the five most populous countries are expected to be India (1.7 billion); China (1.3 billion); Nigeria (433 million), U.S. (423 million); Pakistan (314 million).³

9. Which region has the highest fertility rate and the lowest life expectancy? d) Sub-Saharan Africa

Sub-Saharan Africa is the poorest part of the world. The total fertility rate is 5.2 children per woman. Because the infant mortality rate is high (1 in 12 babies don't survive) and access to healthcare is limited, life expectancy is only 55 years old.⁴

10. What percentage of the world's population lives on less than \$2 per day? c) 48%

While many countries have been developing steadily in recent years, there is still an enormous wealth gap between developed countries in the North and less developed countries in the South.

11. Which of the following correctly ranks the top five CO₂ emitting countries in the world? b) China, United States, India, Russia, Japan

While China recently became the largest total emitter of CO₂, the U.S. still has the distinction of emitting the most CO₂ per capita.⁵

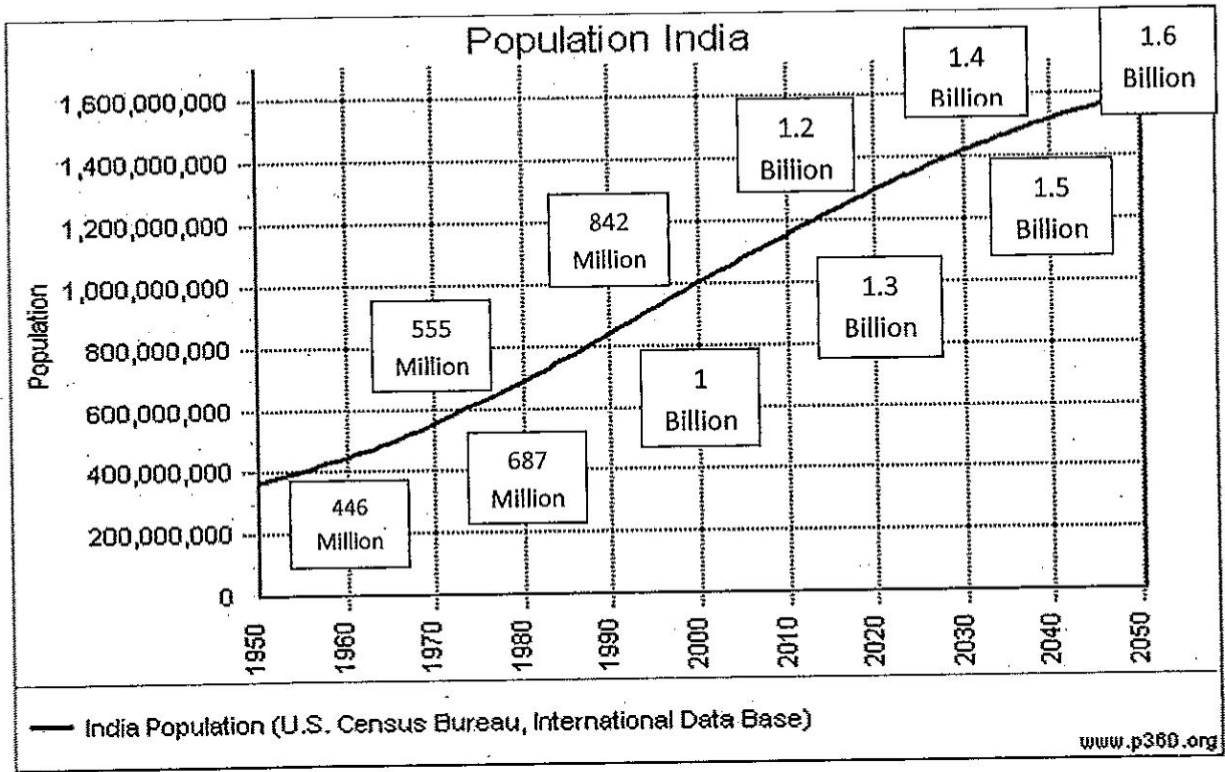
Sources:

- 1 United Nations, World Population Prospects. <http://esa.un.org/UNPP/>
- 2,3,4 2011 World Population Data Sheet, Population Reference Bureau, www.prb.org.
- 5 US Energy Information Administration, Country Energy Profiles. <http://tonto.eia.doe.gov/country/index.cfm>

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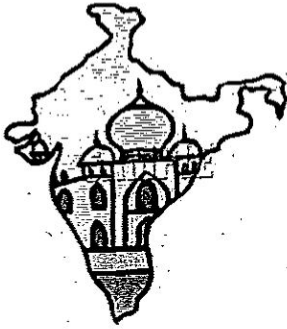
Population of India



1. What is the title of the graph? **Population of India**
2. What was the population in 1960? **446 Million**
3. What was the population in 1980? **687 Million**
4. How much did the population increase from 1980 to 1990? **155 Million**
5. How much is the population predicted to increase from 2010 to 2020? **100 Million**
6. How much is the population predicted to increase from 2020 to 2050? **300 Million**
7. Using the graph, predict what the population will be in 2060. **1.7 Billion**
8. Using the graph, what conclusions can you draw about India's population?
That the population will steadily increase by 100,000,000.

9. Write your own question and answer using the information from the graph.

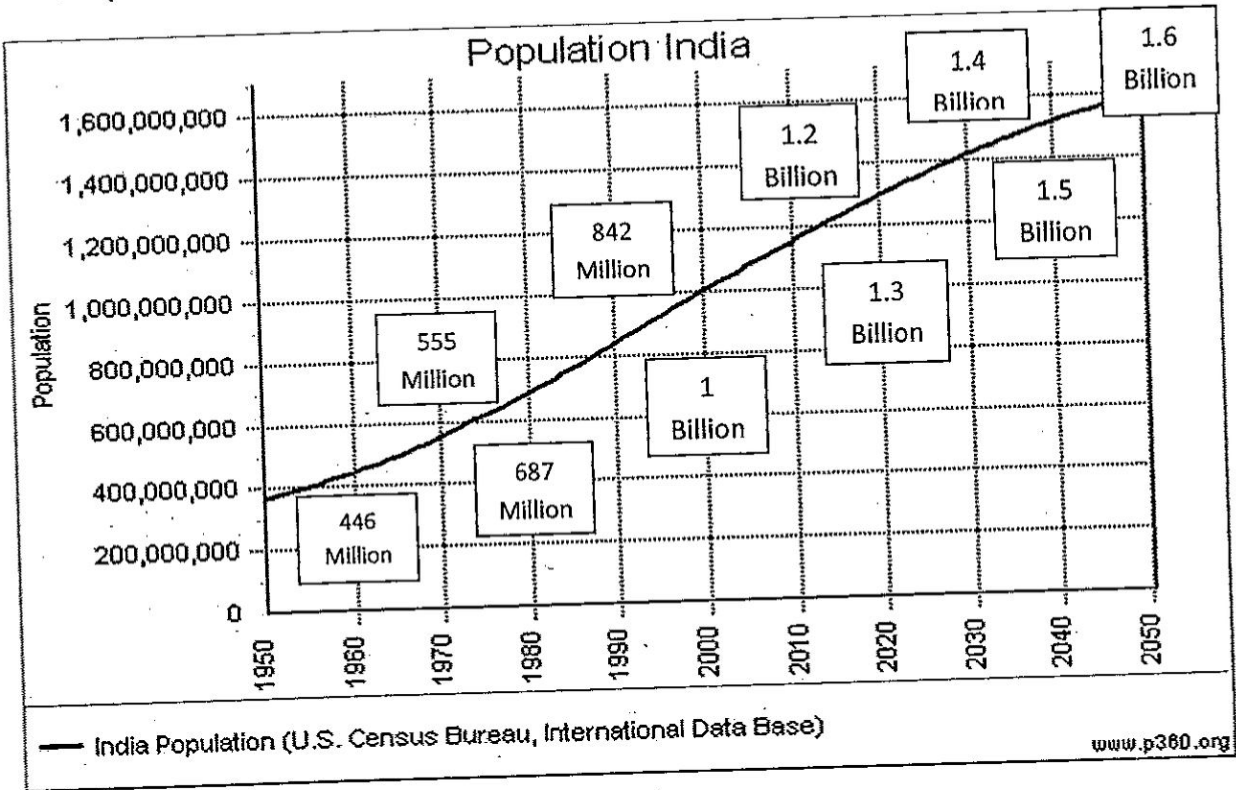
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Population of India



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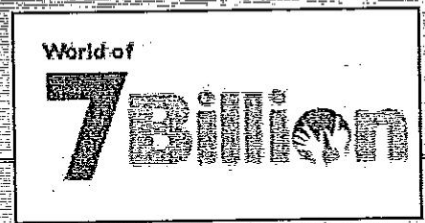
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Population Growth – **Day 2**

South Asia

Patterson/Smith

7 Billion - Where do you Stand?



Introduction:

Sometimes it is easier to think through an issue if you are asked to "take a stand" on it. For this activity, students are asked to take a position and articulate their views on several contemporary issues that are related to a population of seven billion and their resource consumption trends.

Materials:

5 signs reading "Strongly Agree", "Agree", "?", "Disagree", and "Strongly Disagree"
Masking tape

Procedure:

1. Tape the signs on the wall around the classroom.
2. Explain to the students that you will be reading several statements to them, and that they should stand in front of the sign that most closely represents their reaction to the statement you've read. They will then be asked to explain their particular stand on each issue. They are free to move to a different sign if/when their opinions change after hearing their classmates' views.
3. When facilitating the activity, try to give equal time to representatives of different sides of the issue and solicit remarks from as many students as possible. Do not let your own opinions show, but you may pose questions to help students articulate their thoughts.
4. You may want to use some of the following techniques to keep the debate on track. To show respect for viewpoints different than their own, have students paraphrase the opinions offered by others before they speak. To stay focused on content, not personalities, assign students to a position that they must defend, even if it does not mesh with their personal values.

Note: Use your discretion in choosing statements on which students have enough information to form an opinion.

If you'd like to ensure that your students are able to make educated opinions, provide them with the statement(s) you'll be discussing a day or two ahead of the activity in class. Let them use this time to look into the issue at hand so they can make an informed choice and gather useful knowledge to support their opinions.

Concept:

Dialogue and debate on ethical issues related to population and the environment are helpful in clarifying personal opinions.

Objectives:

Students will be able to:
- Articulate their thoughts on statements that deal with ethical issues about population and the environment.

Subjects:

Family and Consumer Sciences, Geography, History, Language Arts, Science, Social Studies

Skills:

Values clarification, communication, discussion

Method:

Students articulate their thoughts about ethical issues related to population reaching seven billion and consider the opinions of their classmates.



Statements:

1. Because our population will soon be at seven billion people and continues to grow, we need to expand land area available for living and growing food by cutting down the rain forest.
2. Without reducing rapid population growth, it will be impossible to solve the world's global challenges.
3. With seven billion people commuting from one place to another, drilling for more oil is necessary to fuel more cars.
4. In order to feed our population, we must use pesticides, chemical fertilizers, and genetically modified crops to increase farm yields.
5. With new technologies used to gather fish, we must have international laws to ensure seafood is harvested sustainably.
6. The Earth can support seven billion people now and will be able to support any number of human in the future.
7. In an effort to feed a population of seven billion, people in developed countries should reduce the amount of meat they consume.
8. Science and technology will ensure that food production and energy supplies keep up with the demands of a growing population.
9. With human population at seven billion, we must protect endangered species habitats by not developing on them for any reason.
10. There is nothing I can do to help alleviate population pressures.
11. Governments in countries with fast-growing populations should make laws to limit the number of children that couples can have.
12. In a real crunch, jobs are more important than environmental quality.
13. With seven billion people on the planet, water pollution is inevitable and we should not waste money trying to prevent it.
14. Even though I am only one person in seven billion, I still have a responsibility to keep the Earth healthy; what I do makes a difference.
15. Automobile makers in this country should be required by law to make all their vehicles fuel-efficient, even though the vehicles may become more expensive.
16. If China and India can each take care of over a billion people on relatively the same size land as the U.S., then the U.S. should accept immigrants until it reaches a billion people as well.
17. All high schools should be prohibited from distributing contraceptives to students under the age of 18.
18. Arable land should never be used for housing, businesses, or other non-agricultural uses because we need all available farmable land to produce food.

**Strongly
Disagree**

???

Disagree