

Name: _____ Date: _____ Class: _____ #: _____

Prior to 1950, the death rate was high, which kept the numbers of humans from increasing rapidly. In the 19th Century, the agricultural revolution increased food production. The industrial revolution improved methods of transporting food and other goods. In the 20th Century, advances in medicine, sanitation and nutrition have decreased the death rates further. These factors combined to produce the rapid growth of the human population in the 20th century. As with any population, humans are also limited by factors such as space, amount of food and disease. The carrying capacity is the number of individuals that a stable environment can support. Authorities disagree on the maximum number of people that the earth can support, though the numbers generally range for 8 to 10 billion. As the population approaches its limit, starvation will increase. Some countries have a much higher growth rate than others. Growth rate is the number of people born minus the number of people that die. Most countries are trying to reduce their growth rate. Zero population growth means that as many people are being born as there are dying - to achieve zero population growth, each couple would need to have no more than two children (to replace the parents). Even if this number is achieved, the population will continue to grow because the parents will still live on for decades, as their children have children and their children have children, and so forth. The United States reached zero population growth in the 1980's, and yet the overall population of the US still increases. The earth's known human population size is reported in the table below.

LT: I can create and analyze graphs in order to explain how the world's population changed in recorded history. 4.6.1; 1.3.1

Data: Make a graph for the data table.

<i>Year</i>	<i>Population (in Billions)</i>
1650	0.50
1750	0.70
1850	1.00
1925	2.00
1956	2.50
1966	3.30
1970	3.60
1974	3.90
1976	4.00
1980	4.40
1991	5.50
2000	6.00
2004	6.40
2008	6.70

3	The graph clearly shows the relationship between both variables. The graph accurately includes all of the following: -a title -axes labels (with units of measure) -units following constant scale -bars/lines represent correct values -a key
2	The graph shows the relationship between both variables. The graph accurately includes most of the following: -a title -axes labels (with units of measure) -units following constant scale -bars/lines represent correct values -a key
1	The graph partially shows the relationship between both variables. The graph accurately includes few of the following: -a title -axes labels (with units of measure) -units following constant scale -bars/lines represent correct values -a key

Analysis

- It took 1,649 years for the world population to double, going from 0.25 billion people to 0.50 billion people. How long did it take for the population to double a second, third and fourth time? [2]
- Based on your graph, in what year will the population reach 8 billion? [1]
- Define and explain the following terms in relation to your graph: [4]
 - Exponential growth:
 - Logistic growth
 - Carrying capacity
 - Limiting factors
- Describe two factors that contribute to the world's overall population growth in the last 150 years? [2]
- If the carrying capacity of the earth was 9 billion people, when would this number be reached (according to your graph)? [1]
- What will happen when the human population exceeds the earth's carrying capacity? [1]

Use the graph below to answer the questions that follow.

7. Which country looks like it is experiencing exponential growth? [1]

8. Which country looks like it has reached its carrying capacity? Because it has reached its carrying capacity, describe the relationship between its birth rates and death rates. [2]

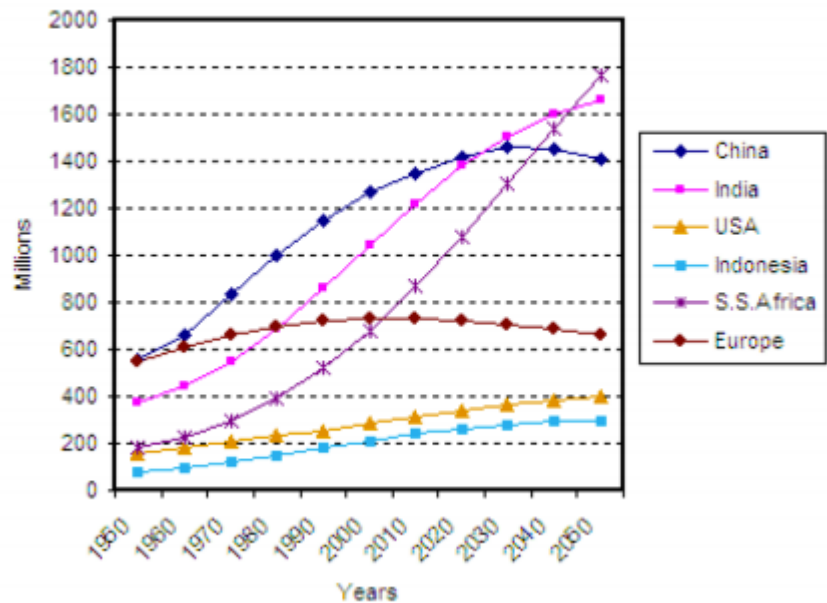
9. Describe what is happening to Europe's population size in terms of birth rates and death rates. [1]

10. Which country or countries could be experiencing emigration? Immigration? Explain. [2]

11. Complete a Cause and Effect Table Chart for the following items: [5]

- During the 1920s, many Eastern European people leave their countries to come to the United States.
- Many more babies were born in the post-World War II era than in the pre-World War II era.
- China imposed a "one child only" policy in 1979 which is still in effect today.
- Seals are hunted for their meat and fur in some regions, resulting in many deaths of seals.

Population growth, some countries and regions



Total Points: _____

Total Points x 4 = _____