


Global Science  
**Chapter 5: Growth and Population - Study Guide**

Name ~~Key~~ \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

1. Exponential growth starts \_\_\_\_\_, but it has the potential to \_\_\_\_\_.
2. Sketch an exponential growth curve:  

3. The LBC Plan \_\_\_\_\_ the growth, the ZPG Plan \_\_\_\_\_ the growth.
4. Exponential growth doubles in a \_\_\_\_\_ amount of time.
5. Write the doubling time (T) equation:  $T = \frac{\ln 2}{r}$  \_\_\_\_\_.
6. Exponential growth plots as a \_\_\_\_\_ on semi-log paper.
7. If the % annual growth rate is 5%, what is the doubling time? \_\_\_\_\_.
8. If the doubling time is 7 years, what is the % annual growth rate? \_\_\_\_\_.
9. A city growing at 15% per year will have twice as many people in how many years? \_\_\_\_\_.
10. Exponential growth is stopped when \_\_\_\_\_ equals \_\_\_\_\_.
- 11a. World population is growing \_\_\_\_\_ % a year.
- 11b. It has a doubling time of \_\_\_\_\_ years.
12. A bank advertises doubling your investment in 12.3 years. What percent annual interest does the bank pay? \_\_\_\_\_%.
13. If something is consumed exponentially, the total consumption in a given doubling is \_\_\_\_\_ the total consumption in all preceding growth.
14. Exponential growth is \_\_\_\_\_ in a finite system.
15. \_\_\_\_\_ is the study of human populations.
16. The rate of natural increase of a population = \_\_\_\_\_ - \_\_\_\_\_.
17. \_\_\_\_\_ = the maximum number of a given organism that a given ecosystem can support.
18. Compare the population histogram of a rapidly growing population to a stable population.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

19. List three factors demographers study as they analyze population growth:
- a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
20. What must be the average number of births per woman (in a modern country) for a population to stabilize? \_\_\_\_\_.
21. Why does early marriage generally result in larger families?
- \_\_\_\_\_
- \_\_\_\_\_
22. What is probably the biggest problem that occurs when a more modern population begins to stabilize?
- \_\_\_\_\_
- \_\_\_\_\_
23. Why does the death rate drop when poor, rural societies begin to modernize? Give three reasons:
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
24. As countries/regions modernize and the standard of living increases, the birth rate begins to drop. Give three reasons:
- a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - (d). \_\_\_\_\_
- \_\_\_\_\_
25. The **demographic transition** suggests a humane solution to the world population problem. What is it?
- \_\_\_\_\_
26. On a population histogram, what gender has the higher population of older age groups? \_\_\_\_\_
27. Is there any good news regarding recent trends in world population? Justify your answer. \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
28. What is the present world population and its growth rate? \_\_\_\_\_
29. There are two accepted approaches to controlling human population. List them:
- a. \_\_\_\_\_
  - b. \_\_\_\_\_

30. Summarize five arguments for total abstinence by young unmarried teens.

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_

31. What does it cost, on the average, to raise a child for 18 years? \_\_\_\_\_

32. When does society say you (young people) are ready for sex? \_\_\_\_\_