

Population Concept Questions

1. State the four principles of ecosystem sustainability
2. How do biotic potential and environmental resistance interact to control the size of a population? Which tends to remain the same and which controls a population's size?
3. It is seldom possible to count all the individuals in a natural population. How can a biologist study population densities without knowing exactly the number of individuals?
4. How can the density of a population affect the extent to which an environmental factor may affect that population?
5. What problems might occur when a species is introduced into an ecosystem in which it does not belong? Give a basic explanation for why these problems occur.
6. Describe the characteristic shape of a graph that represents the growth of a "new" population living in a favourable environment.
7. Describe the characteristic shape of a graph that represents the changes in a well-established population under natural conditions.
8. Do we humans need to control our population? Why or why not?
9. Why do the concepts of biotic potential and environmental resistance not apply to humans?
10. What type of growth pattern has the human population followed? What are the future implications?
11. Why does the concept of carrying capacity not apply easily to the human population?
12. Are there any indications that the human population may already have exceeded the Earth's carrying capacity? If so, what are they?
13. How has the growing human population affected the carrying capacity for some other species?
14. What factors limited growth for most of human history? What contributed to the rapid growth in recent history?
15. Most growth in the next few decades will be in developing countries. What are the social and environmental consequences of rapid population growth in developing countries? How may developed countries be affected?
16. What information can be gained from a population profile? What format is used to present this information?
17. How do the population profiles, fertility rates, and population projections of developed countries differ from those of developing countries?
18. How might future population goals of developed and developing countries contrast?
19. What is meant by the term population momentum and what is its cause?
20. You overhear some people talking about how excess human population could be accommodated by building orbiting space stations that could house 10,000 people each. Each station would be able to produce its own food. How many space stations would be required to house the world's projected population growth over the next 10 years? What kind of policy would have to be enforced on the space stations? Does this seem like a good solution to the problem?
21. Some people argue that technology can provide solutions for environmental problems; others believe that a "technological fix" will make our problems worse. What personal experiences or current world situations support each of these positions? Can future sustainability be attained through development alone?
22. In developing countries, why have fertility rates not come down with development as was expected in the demographic transition?
23. What are some of the specific factors that influence the number of children in a family? How does each influence family size?
24. What are the key aspects of family planning and why is family planning of critical importance to other aspects of development?

25. What conditions often result from people in developing nations seeking a better life by moving to urban areas?
26. What are arguments for and against opening up Canadian borders for migrants from developing countries? Which view do you favor and why?
27. How does a nation's affluence increase its demand for resources? What effect does it have on population?