

## CHAPTER 2: STUDY GUIDE

### Critical Thinking Questions

1. How do weather, the seasons and climate relate? How are they different? How does earth-sun geometry cause the seasons? Does topography matter? How about the relative positions of oceans and continents?
2. Why are most of the world's major deserts at approximately 30° north and south latitude?
3. Discuss the relation between climate and biome?
4. If the vast majority of animal species in the world are insects in the tropics, is there really any problem with losing a few 1000 species out of the 40 or 50M species estimated to exist in the world? Why or why not?
5. The Green Revolution has greatly increased the quantity of food and fiber produced in the world using genetically modified seeds, large quantities of chemical fertilizers, pesticides and water as well as farm machinery. What are the risks and the costs of the Green Revolution?
6. Many species require large, tracts of undisturbed land in order to flourish. If the national parks and protected areas that are established to protect biodiversity in hotspots are too small they will not accomplish their purpose. Is the effort to protect biodiversity from human encroachment too little too late?
7. Explain how the so-called greenhouse effect is related to global warming. What are some of the likely impacts of global warming on the human and non-human worlds?
8. Discuss the pros and cons of using tradable permits between regions or countries for greenhouse gas emissions such as CO<sub>2</sub> or other forms of pollution.
9. Speculate on why after millions of years of successful hunting and gathering, our ancestors began to live sedentary lifestyles based on domesticating plants and animals. Did it happen consciously or by accident?
10. What changes enabled and accompanied the industrial revolution? From what sources was Europe's industrial revolution supplied with raw materials and labor?
11. Why is Norway score highest on the Human Development Index even though it is only 3<sup>rd</sup> highest in per capita GDP PPP?
12. What is life like for most of the 81 % of the people in the world who live in LDCs?
13. How did settler colonialism differ from mercantile colonialism?
14. Why are regions rich in natural resources, like Appalachia, and the Congo, poor and regions poor in natural resources like Switzerland and Japan, rich? Why is it that a continent like Africa that is one of the richest storehouses of natural resources (largest supplies of gold, diamonds, and many metals) is the site of the world's worst poverty?
15. If the wealth of the MDCs was founded largely on the labor supplied by workers taken from the LDCs and the LDCs were impeded in participating in their own industrial revolutions by this loss of labor, don't the MDCs owe the LDCs compensation of some sort?
16. What is the difference between free trade and fair trade?
17. There is a paradox that development, hot money and growth of globalization can hurt countries where it occurs, marginalize the poor and destroy fragile environments. How is this possible? Is it avoidable?

18. Thomas Malthus predicted a catastrophic die-off. Why hasn't it happened yet?
19. What are some problems with Garrett Hardin's metaphor of lifeboat ethics?
20. How large is the human population today? At its current rate, how long will it take the population to double? How large is it likely to become in your lifetime?
- Note. The Rule of 72 is useful for financial as well as demographic analysis. It states that to find the doubling time of a quantity growing at a given annual percentage rate, divide the percentage number into 72 to obtain the approximate number of years required to double. For example, at a 10% annual growth rate, doubling time is  $72 / 10 = 7.2$  years.

## Practice Questions

### *Multiple Choice*

- \_\_\_ 1. Rising air cools. Cold air holds less moisture and precipitation results. Which of the following is **not** a mechanism that makes air rise?
- A) heavy lifting
  - B) frontal lifting
  - C) orographic lifting
  - D) air heated by intense surface radiation
- \_\_\_ 2. Which of the following is **not** an adaptation that plants make to reduce moisture stress?
- A) losing leaves during the dry season
  - B) going dormant during the dry season
  - C) keeping their leaves all year
  - D) producing tiny leaves
- \_\_\_ 3. In continental drift theory the movements of tectonic plates produces several kinds of landforms and effects. Which of the following do plate movements not produce?
- A) earthquakes B) volcanoes C) rifts D) floodplains
- \_\_\_ 4. Which industrial country refuses to ratify the Kyoto Protocol on reducing greenhouse gas emissions?
- A) US B) Russia C) China D) France
- \_\_\_ 5. In the Neolithic revolution there were a handful of major culture hearths world wide. Which of the following was not a Neolithic culture hearth?
- A) Mesopotamia B) China C) Mesoamerica D) Southern California
- \_\_\_ 6. Which of the following is not one of the three countries with the lowest per capita GDP PPP in 2003?
- A) Cuba B) Sierra Leon C) Somalia D) East Timor

### *True Or False*

- \_\_\_ 7. Marine West Coast climates are mild despite their high latitudes because of warm air associated with warm ocean currents.

- \_\_\_ 8. Ice cap climates are desert-like because they are so cold that they receive little precipitation.
- \_\_\_ 9. The Montreal Protocol will successfully limit the production of chlorofluorocarbons by 2010 thus helping to restore the ozone layer.
- \_\_\_ 10. China, India, Western Europe and the northeastern United States have such large populations for the same reasons.
- \_\_\_ 11. Poverty, hunger, lack of markets and population pressure force LDCs to use their natural resources at unsustainable rates.
- \_\_\_ 12. If the birth rate is lower than the death rate the population change rate has a positive value
- \_\_\_ 13. The brain drain from LDCs is produced by both push and pull factors.
- \_\_\_ 14. Immigration for the US could provide young workers to support the aging population.
- \_\_\_ 15. Population rises quickly during phase 2 of the demographic transition when death rates fall but birth rates remain high.

***Fill In***

16. Today, fully \_\_\_% of Earth's land-based photosynthetic output is dedicated to human uses, especially in agriculture and forestry. Of particular interest to geographers is how the costs and benefits of such expansion are distributed in unequal patterns across the earth.
17. \_\_\_\_\_ slaves and contracted workers are estimated to have been employed in mines and plantations in European colonial enterprises. Another 10-20M are thought to have died in transit.
18. People in abject poverty live on less than the equivalent of \$ \_\_\_ per day.
19. A pyramid-shaped age structure diagram with 33 % of the population under age 15 is typical of \_\_\_.
20. A chimney-shaped age structure diagram with 17 % under 14 is typical of \_\_\_\_\_.