

Unit 4: Focus Questions

1. In a paragraph, outline the role that forests play in ecosystems.

2. As a farmer in the Canadian Prairies, what measures would you take to protect your soil from sustaining as little water and wind erosion as possible?

3. The prairie grassland chernozem soils are ideal for farming. Explain why this soil has such a deep humus layer and is so high in nutrient content.

4. Explain why the tropical rainforests are called the 'lungs of the earth' or 'carbon sinks'.

5. List ways that desert xerophyte vegetation has adapted to surviving in the harsh desert environment.

6. It has been said that the consumer is partly responsible for the use of pesticides in farming. Explain why.

7. The Sahel region of Africa is a major erosional hotspot in the world today. Human actions are largely but not entirely to blame for the soil problems in the Sahel. Explain why this area is in danger of becoming a part of the Sahara desert.

8. Compare leaching and capillary action. In what type of soils would these two soil forming processes dominate?

9. World forest land is diminishing at a rate of 1% a year, largely because of the destruction of tropical rainforests. What activities are harming the world's greatest rainforest - the Amazon?

10. Many scientists agree that the destruction of rainforest is directly linked to the acceleration of global warming. Explain why.

11. Study vegetation patterns from the equator to the North Pole and record the main vegetation types as *latitude* increases from 0-90 degrees. Now look at vegetation patterns on the side of a high mountain. Again record the vegetation types that you see as *elevation* increases.

What are the similarities in the vegetation patterns ? _____

Latitude and altitude are *climate controls* that play a similar role in vegetation growth. Why? _____

12. The laterite soils of the tropical rainforest are poorly suited for agriculture yet they support the most extensive forests in the world. Explain why the fertility of laterite soils quickly drops once the vegetation has been removed.

13. Pesticide use can dramatically increase crop yields but there are some negative side effects to using pesticides. List 3 negative effects of pesticide use.

14. What role do wetlands play in ecosystems?

15. Why is the tundra a treeless region of bogs, ponds and lakes ?

16. As global warming accelerates and temperatures rise in the north, the tundra could have a much different look in the future. Explain how rising temperatures might transform this region in the future.

17. The Great Bear Rainforest was recently under threat by a proposed oil pipeline that would have run from Edmonton, Alberta, to the deepwater port of Kitimat. Explain how this pipeline could have proven to be very damaging to this remote wilderness region.

18. Select terms from the center oval and place them in the appropriate rectangle. Each numbered rectangle should be a separate biome. For instance, if you choose to make rectangle #1 Tropical Rainforest then all terms that relate to 'tropical rainforest' must appear in this rectangle. Some terms will belong in more than one rectangle. One such term is leaching, more than one biome has a soil that suffers from the effects of leaching.

