

Pole to Pole Questions**Name****Period**

1. What is the main energy source for the Earth's living systems? Give a detailed explanation of how energy transfers through living systems.
2. Why does the program follow the sun "from pole to pole"? Address changes in energy and climate in your answer.
3. Near the North Pole and South Pole, why is it that there is one period when the sun does not set and one period when the sun does not rise? What impact does this have on the organisms located there?
4. What triggers changes in seasons? Describe the processes deciduous plants go through as weather becomes colder.
5. Plant life changes from the North Pole to the tropical rain forest and from the tropical rain forest to the South Pole. Compare the distribution of plant types in the Northern and Southern Hemispheres. Are plant types equally distributed? Why or why not?
6. Name the major land biomes. Describe the set of abiotic factors that defines the biomes as well as the geographic distribution of each.
7. What is the relationship between the Kalahari Desert and the Okavango Swamp in southern Africa? How might further agricultural or commercial development affect the plants and animals in that region?
8. What challenges do emperor penguins face to survive in their habitat? What adaptations and behaviors have they developed to survive? Be sure to mention the unique ways in which penguins reproduce and care for their young.
9. Why do fur seals migrate from one location to another? What does the migration of fur seals mean for great white sharks? Explain the relationship of fur seals and great white sharks as part of a food web with at least four trophic levels.
10. How do hunting dogs capture their prey? What defenses do impalas have against their predators? Explain the relationship of hunting dogs and impalas as part of a food web with at least four trophic levels.