23. Fallen needles from conifers make the soil acidic, which is not good for most plants.
24. B
25. B
26. A
27. B
28. A
29. A
30. microclimate
31. In winter, temperatures are below freezing. In summer, average temperatures are from 10°C to 15°C.
32. Answers may vary. Sample answer: A city, unlike a surrounding rural area, has more buildings and pavement that absorb solar radiation instead of reflecting it. This heats the surrounding air. Also, there is less vegetation in a city to take in the sun's rays.

SECTION: CHANGES IN CLIMATE

1. because it changes slowly
2. human activity and natural factors
3. ice age
4. glacial
5. because a large amount of water is frozen
6. interglacial
7. Milankovitch theory
8. When the orbit is more elliptical, Earth receives more energy from the sun. When the orbit is circular, Earth receives less energy from the sun.
9. Pangaea was when, 250 million years ago, all continents were connected near the South Pole in one giant landmass.
10. C
11. asteroid
12. The debris from a crashing asteroid's impact could have blocked sunlight, lowering air temperatures. Plants wouldn't get the sunlight they needed to grow, and animals therefore would have had no food.
13. During a solar maximum, the sun produces a large percentage of high-energy radiation. During a solar minimum the sun produces a low percentage of high-energy radiation.
14. It warms the winds, affecting climate patterns around the world.
15. temperature; carbon dioxide
16. greenhouse effect
17. It releases more carbon dioxide into the atmosphere since plants use carbon dioxide to make food.
18. Answers may vary. Sample answer: Icecaps will melt and cause flooding; deserts might receive even less rainfall than normal; crops would be harmed by warmer and drier climates.

Directed Reading B

SECTION: WHAT IS CLIMATE?

1. B
2. C
3. C
4. A
5. C
6. D
7. elevation
8. temperature; precipitation
9. windward
10. rain shadow
11. D
12. C
13. B
14. C
15. C
16. A
17. C
18. B
19. C
20. A

SECTION: THE TROPICS

1. B
2. B
3. B
4. D
5. C
6. D
7. B

SECTION: TEMPERATE AND POLAR ZONES

1. temperate zone
2. deciduous
3. evergreen
4. temperate grasslands
5. C
6. D
7. B
8. C

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