

Chapter 3 Practice Test

Indicate whether the statement is true or false.

1. The side of Earth facing the sun is colder, and the side of Earth not facing the sun is warmer.
 - a. True
 - b. False

2. The Equator experiences the most dramatic variation in the amount of sunlight.
 - a. True
 - b. False

3. The Northern Hemisphere experiences summer when it is tilted toward the sun and receives more direct sunlight.
 - a. True
 - b. False

4. The greenhouse effect is when the sun's rays pass through the atmosphere and heat is trapped.
 - a. True
 - b. False

5. Humid subtropical, marine west coast, Mediterranean, and humid continental are types of midlatitude climates.
 - a. True
 - b. False

6. Tropical dry climates support more plants and animals than do tropical wet climates.
 - a. True
 - b. False

7. Without the greenhouse effect, Earth would be too hot to support life.
 - a. True
 - b. False

8. The Amazon River basin is an example of a tropical dry climate.
 - a. True
 - b. False

9. An oasis is caused by an underground spring coming to the surface in a desert.
 - a. True
 - b. False

10. A steppe is a type of dry climate.
 - a. True
 - b. False

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Indicate the answer choice that best completes the statement or answers the question.

11. When it is summer in the Southern Hemisphere, what season is it in the Northern Hemisphere?
 - a. summer
 - b. autumn
 - c. winter
 - d. spring

12. What effect does cool temperature have on air?
 - a. It causes air to sink.
 - b. It causes air to blow clockwise.
 - c. It causes air to rise.
 - d. It causes air to blow counterclockwise.

13. In geography, the term Mediterranean climate refers
 - a. to the climate unique to the Mediterranean Sea region.
 - b. to any coastal midlatitude climate that has mild, rainy winters and hot, dry summers.
 - c. to a dry climate that experiences warm summers and harshly cold winters.
 - d. to a wet, warm climate with continual rain.

14. Burning fossil fuels releases gases that cause
 - a. acid rain.
 - b. the Coriolis effect.
 - c. ocean levels to rise.
 - d. oases to form.

15. How frequently does Earth complete one rotation on its axis?
 - a. every 60 minutes
 - b. every 24 hours
 - c. every 7 days
 - d. every 365 days

16. What is the term for the generally windless area near the Equator?
 - a. the prime meridian
 - b. the doldrums
 - c. the horse latitudes
 - d. the midlatitudes

17. The _____ occur(s) because Earth's rotation causes prevailing winds to move diagonally.
 - a. Coriolis effect
 - b. greenhouse effect
 - c. doldrums
 - d. trade winds

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18. What effect do large bodies of water tend to have on coastal areas?
- They cause extreme changes in seasonal temperatures.
 - They cause temperatures to be more uniform and moderate.
 - They cause year-round high temperatures.
 - They cause year-round cold temperatures.
19. Where do the most dramatic variations in the amount of sunlight occur?
- the Poles
 - the Tropic of Cancer
 - the Tropic of Capricorn
 - the Equator
20. When exhaust released from burning fossil fuels is heated in the atmosphere by solar radiation, it creates
- tornadoes.
 - hailstorms.
 - a rain shadow.
 - smog.
21. How does the Coriolis effect influence winds?
- It causes them to blow clockwise in the Northern Hemisphere and counterclockwise in the Southern Hemisphere.
 - It causes them to blow counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.
 - It causes periodic El Niño episodes.
 - It causes them to become still, resulting in the doldrums.
22. High latitude climates support only limited plant and animal life because of
- their extreme aridity.
 - the lack of direct sunlight.
 - the powerful polar winds.
 - the El Niño phenomenon.
23. Different places on Earth receive different amounts of direct sunlight at the same time
- because volcanic eruptions cloud the sky.
 - because of climate variations.
 - because the greenhouse effect blocks the sun's rays.
 - because earth is tilted on its axis.
24. When does the shortest day of the year occur?
- on the winter solstice
 - on the spring equinox
 - on the summer solstice
 - on the fall equinox

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25. According to scientists, in what climate do more than half of all plant and animal species exist?
- a. semi-arid
 - b. arid
 - c. tropical wet
 - d. tropical dry
26. When it is winter in the Northern Hemisphere, what season is it in the Southern Hemisphere?
- a. spring
 - b. winter
 - c. autumn
 - d. summer
27. A(n) _____ is an area of lush vegetation in a desert created by an underground spring.
- a. oasis
 - b. prairie
 - c. steppe
 - d. tundra
28. The rain shadow effect causes
- a. hurricanes to develop in the Atlantic Ocean.
 - b. dry areas to develop on the leeward sides of mountain ranges.
 - c. ice caps to develop on the North and South Poles.
 - d. monsoons to develop in the Pacific Ocean.
29. What causes smog?
- a. the rain shadow effect in which clouds and pollution combine to darken skies
 - b. the interaction of solar radiation and emissions released by burning fossil fuels
 - c. the Coriolis effect in which swirling winds keep pollution aloft
 - d. emissions from plant life, which produces more carbon dioxide than does human activity
30. El Niño is a phenomenon that originates in
- a. the Pacific Ocean.
 - b. the Atlantic Ocean.
 - c. the Caribbean Sea.
 - d. the Mediterranean Sea.
31. What effect is caused by a rain shadow?
- a. Drier, warmer areas develop on the leeward side of mountains.
 - b. Wetter, cooler areas develop on the leeward side of mountains.
 - c. Drier, cooler areas develop on the windward side of mountains.
 - d. Wetter, warmer areas develop on the windward side of mountains.

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32. Because Earth is tilted on its axis,
- ocean currents move in predictable patterns.
 - the seasons occur at the same time in all parts of the world.
 - different places on Earth receive different amounts of sunlight.
 - it is never dark at the North and South Poles.
33. In marine west coast climates, ocean winds cause
- short, mild winters and nearly year-round rain.
 - cool summers and cool, damp winters.
 - short, mild winters and nearly year-round rain.
 - warm summers and harshly cold winters.
34. About how long does it take for Earth to complete a revolution around the sun?
- 7 days
 - 31 days
 - 365 days
 - 1,000 days
35. What are the prevailing winds of the latitudes near the equator called?
- doldrums
 - El Niño
 - trade winds
 - Coriolis winds
36. What kind of trees change color and drop their leaves in autumn?
- pine trees
 - coniferous trees
 - evergreen trees
 - deciduous trees
37. Temperatures at higher elevations are _____ compared to temperatures at lower elevations.
- more variable
 - less variable
 - lower
 - higher
38. The term *permafrost* refers to
- glaciers that form at the North and South Poles.
 - the first time the temperature stays below the freezing point, causing trees to drop their leaves.
 - the snowy areas that form on the leeward side of mountains.
 - permanently frozen soil beneath the ground.

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39. Which area experiences the midnight sun?
- the Equator
 - the Arctic
 - the Midlatitude Zones
 - the Horse Latitudes
40. What is the equinox?
- a day on which the sun is directly over the Tropic of Cancer
 - a day on which the sun is directly over the prime meridian
 - a day on which the sun is directly over the Equator
 - a day on which the sun is directly over the Tropic of Capricorn
41. What is the average daily temperature of a tropical wet climate?
- 32°F (0°C)
 - 50°F (10°C)
 - 80°F (27°C)
 - 100°F (38°C)
42. Because of _____, some solar radiation is absorbed by Earth's atmosphere and some is reflected back into space.
- global warming
 - the tilt of Earth's axis
 - the Coriolis effect
 - the greenhouse effect
43. What causes solar radiation to warm Earth?
- the Coriolis effect
 - the lunar effect
 - the shadow effect
 - the greenhouse effect
44. Why are temperatures cooler in Quito, Ecuador, than in most other places located near the Equator?
- Quito is in the hurricane belt.
 - Quito is on the leeward side of a mountain range.
 - Quito is at sea level, allowing coastal breezes to cool the air.
 - Quito is in the mountains, at a high elevation.
45. Which of the following statements accurately describes the relationship between the Tropic of Cancer and the Tropic of Capricorn?
- The Tropic of Cancer is north of the Tropic of Capricorn.
 - The Tropic of Cancer is south of the Tropic of Capricorn.
 - The Tropic of Cancer is east of the Tropic of Capricorn.
 - The Tropic of Cancer is west of the Tropic of Capricorn.

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- a. El Niño
 - b. westerlies
 - c. prevailing winds
 - d. winds
 - e. high latitude zones
46. air movement caused by the sun heating Earth's surface and atmosphere unevenly
47. the North and South Poles
48. air movements that regularly blow diagonally toward the east in the midlatitudes
49. periodic change in the pattern of ocean currents, water temperatures, and weather in the mid-Pacific Ocean
50. air movement in a region that blows in a fairly constant directional pattern
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- a. Coriolis Effect
 - b. desert
 - c. Equinox
 - d. steppe
 - e. permafrost
 - f. solstice
 - g. greenhouse gas
 - h. El Niño
 - i. rain shadow
 - j. biome
51. a day on which the sun is directly over the Equator
52. a phenomenon that causes dry areas to develop on the leeward sides of mountain ranges
53. causes winds to blow clockwise in the Northern Hemisphere
54. permanently frozen soil beneath the ground's surface
55. a dry grassland that has warm summers and harsh, cold winters
56. a phenomenon in which the pattern of ocean currents and water temperatures in the mid-Pacific region reverse
57. a day on which the sun is directly over the Tropic of Cancer or the Tropic of the Capricorn
58. a substance such as methane or carbon dioxide that traps heat in the atmosphere
59. a regional ecosystem with distinct plants and animals
60. an extremely dry area which supports very few plants or animals

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- a. weather b. windward
c. tropical dry d. greenhouse effect
e. acid rain f. current
g. leeward h. tropical wet
i. climate j. natural vegetation
61. the side facing away from the wind and toward which the wind blows
62. the warming of Earth when solar radiation interacts with atmospheric gases
63. the state of the atmosphere in one place over a short period of time
64. the climate characterized by rain forests, such as that found in the Amazon
65. a name for precipitation that contains various pollutant gases
66. the climate in which savannas are found
67. the side facing into the wind and from which the wind blows
68. the characteristic pattern of weather in an area over a long period of time
69. the plant life of a region if the environment has not been changed by humans
70. the movement of water, as through an ocean or stream
71. In the quote below, Micah McCarty, chair of the Makah Tribe in Neah Bay, Washington, comments on recent droughts that have affected Makah lands. Write an essay explaining how climate change is affecting the Makah and explaining three other ways in which climate change can affect human populations.
- “The salmon could not go upstream because there wasn’t enough water. If we experience more and more of these events, what are we going to do to adapt?”*
—Eric Niller, *“Climate Change First Responders: Native Americans,”* 2012
72. How do latitude, elevation, wind, water, and landforms affect Earth’s climate? Explain the relationship in a paragraph or two supported by details from the chapter.
- In November 2011, the International Energy Agency warned that the world may be fast approaching a tipping point concerning climate change, and suggested that the next five years will be crucial for greenhouse gas reduction efforts. Avoiding the worst consequences of climate change will require large cuts in global greenhouse gas emissions.*
—Council on Foreign Relations, from *“The Global Climate Change Regime,”* 2013
73. Using this quote from the Council on Foreign Relations and what you know from the textbook, write a detailed paragraph explaining how climate change is a global issue and why addressing it will require cooperation among countries.
74. How might an increase in global warming affect Earth’s climates? Write a paragraph supported by details from the chapter.