Exam

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

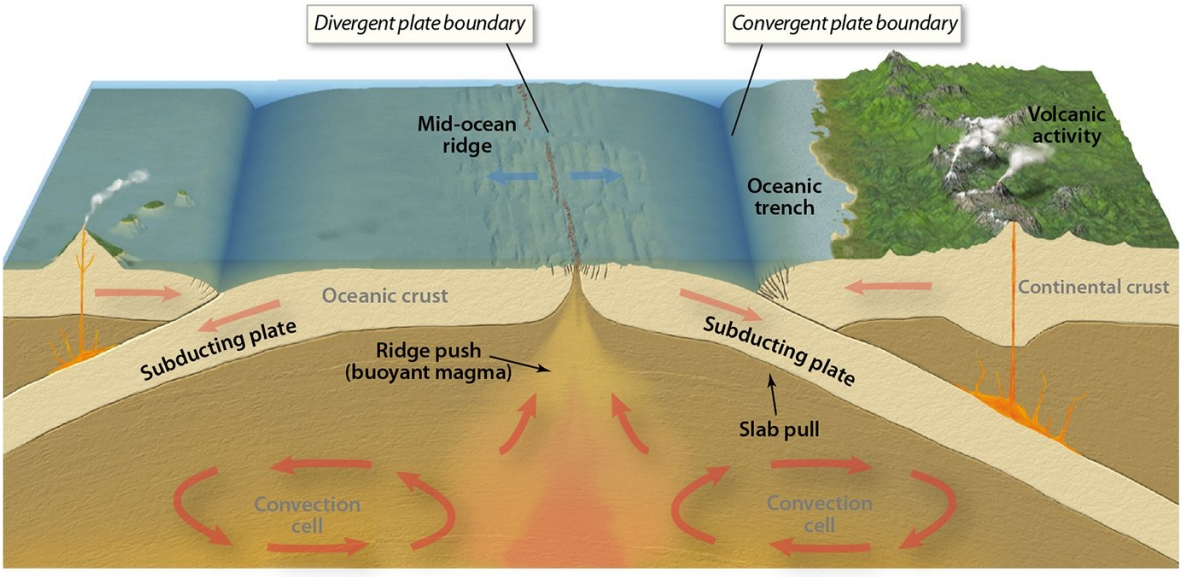
1) What is the theory of plate tectonics? 1) _____
A) The number of tectonic plates equals the number of continents on Earth.
B) Earth's continents are moving closer together.
C) Earth is made up of a large number of geological plates that move slowly across its surface.
D) Human activities are changing Earth's surface.
E) Earth was created 6,000 years ago.

Answer: C
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.1 Describe those aspects of tectonic plate theory responsible for shaping Earth's surface.

2) What geologic structure is created when one tectonic plate dives below another? 2) _____
A) continental crust
B) ocean trenches
C) subduction zone
D) divergent plate boundary
E) convergent plate boundary

Answer: C
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.1 Describe those aspects of tectonic plate theory responsible for shaping Earth's surface.

3) Beneath Earth's surface, where does the heat exchange occur that moves tectonic plates? 3) _____



A) ocean trenches
B) convection cells
C) subducting plate
D) mid-ocean ridge
E) continental crust

Answer: B
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.1 Describe those aspects of tectonic plate theory responsible for shaping Earth's surface.

4) Which of the following features is created at a divergent plate boundary? 4) _____
A) oceanic trench
B) subduction zone
C) mountain building at the margin of the continent
D) continental crust
E) rift valleys

Answer: E
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.1 Describe those aspects of tectonic plate theory responsible for shaping Earth's surface.

5) The deepest trenches in the world exceed what depth? 5) _____
A) 250,000 feet
B) 15,000 feet
C) 35,000 feet
D) 25,000 feet
E) 50,000 feet

Answer: C
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.1 Describe those aspects of tectonic plate theory responsible for shaping Earth's surface.

6) The Himalayas are a prime example of which feature? 6) _____
A) rift valley
B) convergent boundary
C) transform fault
D) divergent boundary
E) subduction zone

Answer: B
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.1 Describe those aspects of tectonic plate theory responsible for shaping Earth's surface.

7) Which of the following locales will feature subduction zones? 7) _____
A) East Africa
B) the Himalayan Mountains
C) Iceland
D) Pangea
E) the Pacific Coast of South America

Answer: E
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.2 Identify on a map those parts of the world where earthquakes and volcanoes are hazardous to human settlement.

8) Which of the following is NOT created along convergent plate boundaries? 8) _____
A) mountain ranges and active volcanoes
B) a subduction zone
C) rift valleys
D) the world's most powerful earthquakes
E) deep trenches

Answer: C
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.1 Describe those aspects of tectonic plate theory responsible for shaping Earth's surface.

9) An example on Earth of a rift valley is 9) _____
A) the Red Sea between northern Africa and Saudi Arabia
B) the Mariana Trench
C) Iceland
D) the San Andreas fault of California
E) the Andes Mountains of South America

Answer: A
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.2 Identify on a map those parts of the world where earthquakes and volcanoes are hazardous to human settlement.

10) The San Andreas Fault, traversing coastal California, forms what type of plate boundary? 10) _____
A) subduction zone
B) transform fault
C) colliding plate boundary
D) divergent plate boundary
E) divergent plate boundary and subduction zone

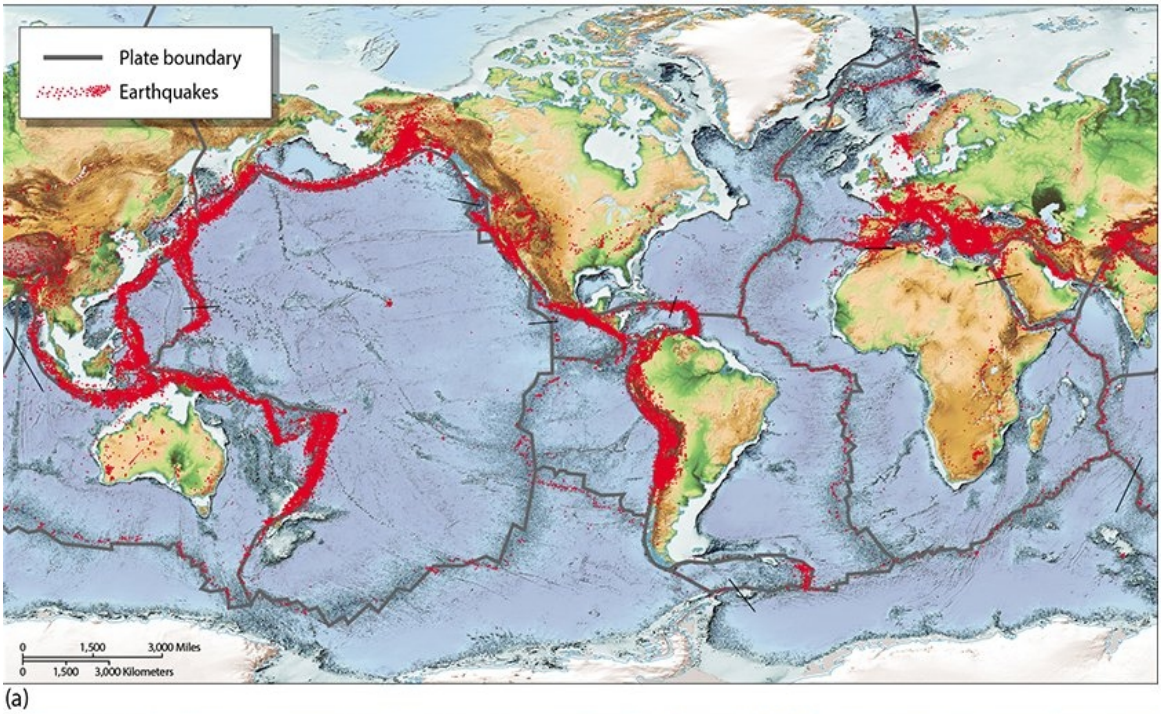
Answer: B
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.1 Describe those aspects of tectonic plate theory responsible for shaping Earth's surface.

11) Pangaea was 11) _____

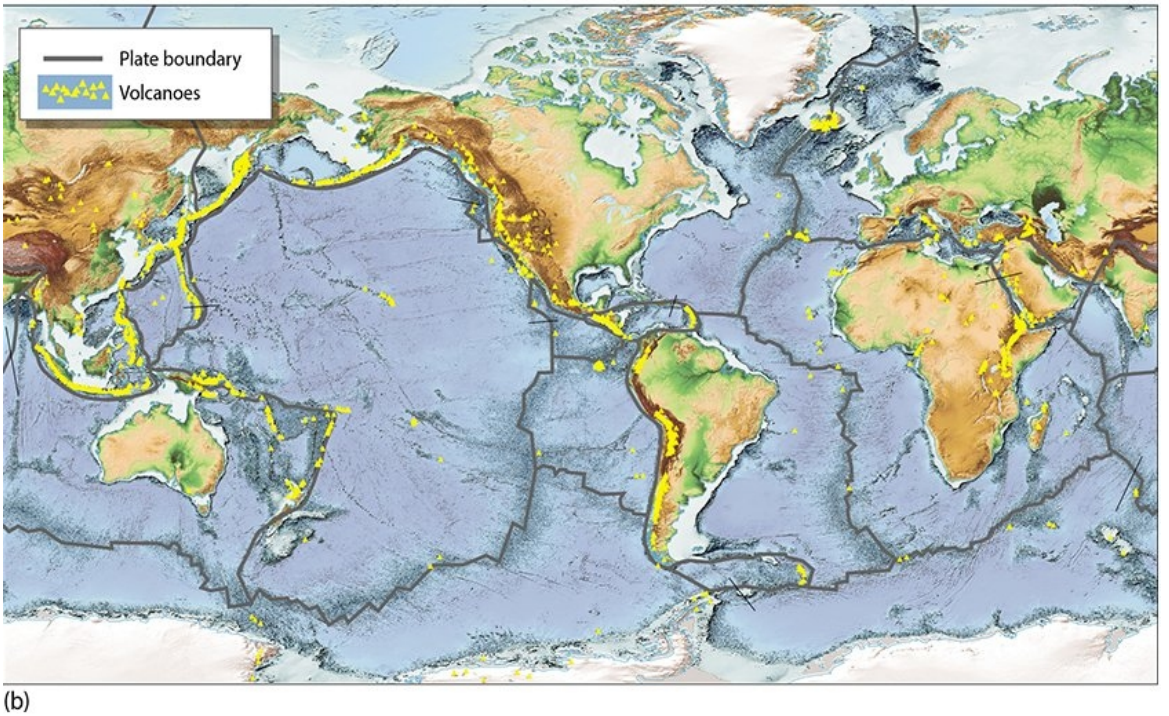
A) a deep ocean trench created by colliding plates.
B) a supercontinent centered on present-day Africa.
C) an area of active earthquakes and volcanoes.
D) an area of colliding plates that formed the Himalaya Mountains.
E) the divergent plate that created the Rocky Mountains in North America.

Answer: B
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.1 Describe those aspects of tectonic plate theory responsible for shaping Earth's surface.

12) Where are earthquakes and volcanoes most commonly found? 12) _____



(a)



(b)

A) at the edges of oceans
B) in the higher latitudes
C) around the equator
D) along tectonic plate boundaries
E) The location is random.

Answer: D

Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.2 Identify on a map those parts of the world where earthquakes and volcanoes are hazardous to human settlement.

13) Which chain of volcanic islands are far removed from a plate boundary? 13) _____
A) Japan
B) Iceland
C) Hawaii
D) Philippines
E) Indonesia

Answer: C
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.2 Identify on a map those parts of the world where earthquakes and volcanoes are hazardous to human settlement.

14) Which of the following statements is FALSE about volcanoes? 14) _____
A) volcanoes are an excellent source of geothermal energy
B) volcanoes are found in site-specific places on Earth, most notably along plate boundaries
C) volcanism may provide tourism revenue due to the scenic beauty of the landscape
D) volcanoes tend to generate very poor soils for agriculture
E) volcanoes usually provide an array of warnings before they erupt, thus minimizing the loss of life should humans heed the warnings

Answer: D
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.1 Describe those aspects of tectonic plate theory responsible for shaping Earth's surface.

15) Haiti's 2008 earthquake resulted in over 230,000 deaths whereas Japan's 2011 earthquake resulted in 20,000 deaths. What explains the differences in loss of life? 15) _____
A) effectiveness of search and rescue operations and local building standards
B) effectiveness of search & rescue operations
C) strength of the earthquake
D) in Haiti there was also a tsunami that followed the earthquake
E) local building standards

Answer: A
Topic/Section: 1 Geology: A Restless Earth
Learning Outcome: 2.2 Identify on a map those parts of the world where earthquakes and volcanoes are hazardous to human settlement.

16) The trapping of solar radiation in Earth's lower atmosphere 16) _____
A) began with humans' use of fossil fuels.
B) began with humans' use of fossil fuels and has no benefits.
C) is called the greenhouse effect.
D) has no benefits.
E) is entirely anthropogenic.

Answer: C
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.4 Define the greenhouse effect and explain how it is related to anthropogenic climate change.

17) If the greenhouse effect did not exist, what would happen to earth? 17) _____
A) Our environment would be greatly improved.
B) Earth would be too wet to support life as we know it.
C) Earth would be much too hot to support life as we know it.
D) Earth would be too cold to support life as we know it.
E) It would make no difference.

Answer: D
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.4 Define the greenhouse effect and explain how it is related to anthropogenic climate change.

18) Which of the following is NOT one of Earth's climate controls? 18) _____
A) incoming solar energy
B) land-water heating differences
C) longitude
D) latitude
E) global pressure systems and wind patterns

Answer: C
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

19) A maritime climate is characterized by 19) _____
A) mild summers.
B) mild winters.
C) cold winters.
D) hot summers.
E) mild summers and mild winters

Answer: E
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

20) The Inter-Tropical Convergence Zone is most found straddling the 20) _____
A) Arctic Circle
B) Antarctic Circle
C) Equator
D) Tropic of Capricorn
E) Tropic of Cancer

Answer: C
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

21) The world's pressure systems are responsible for 21) _____
A) a greater intensity of solar energy at the equator.
B) warm, rainless summer of Mediterranean climates.
C) severe winters in interior regions.
D) mild summers/winters along coasts and severe winters in interior regions.
E) mild summer and winter temperatures along coast lines.

Answer: B
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

22) Which of the following places will have the greatest annual difference between summer and winter temperatures? 22) _____

A) Sacramento, California (38°N, 121°W), located eight miles from Pacific coast
B) Orlando, Florida (28°N, 81°W), located sixty miles from the Atlantic coast
C) Fargo, North Dakota (46°N, 96°W), located near the geographic center of North America
D) Miami, Florida (25°N, 80°W), located on the Atlantic coast
E) San Francisco, California (38°N, 120°W), located on the Pacific coast

Answer: C
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

23) If all climatic controls except latitude were held constant, which of these cities would be warmest? 23) _____

A) Wasilla, Alaska at about 61° north latitude
B) Cape Town, South Africa at about 34° south latitude
C) Paris, France at about 49° north latitude
D) Singapore at about 2° north latitude
E) Punta Arenas, Chile at about 53° south latitude

Answer: D
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

24) Tropical winds generally blow in which direction in both hemispheres? 24) _____

A) from north to south
B) from south to north
C) from west to east
D) from east to west
E) there are no prevailing wind directions in the tropics

Answer: D
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

25) Equatorial regions are characterized by a _____ pressure system and _____ air flow 25) _____

A) low, ascending
B) high, ascending
C) high, descending
D) low, descending
E) neutral, no

Answer: A
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

26) Using the environmental lapse rate of 3.5°F/1000 feet, if you have a surface temperature of 77.5°F at sea level and go hiking in the nearby mountains to an elevation of 3000 feet, what will the temperature be at that elevation? 26) _____

A) 0°F B) 60°F C) 67°F D) 88°F E) 73.5°F

Answer: C
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

27) The movement of air over a mountain range, causing it cool (and possibly rain) as it gains elevation is known as 27) _____
A) convection
B) orographic
C) dynamic
D) convergence
E) climatic

Answer: B
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

28) The long-term average from daily weather measurements is 28) _____
A) weather.
B) global warming.
C) climate.
D) insolation.
E) climograph.

Answer: C
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

29) The equatorial regions of the African continent are dominated by which two climate categories? 29) _____
A) Aw/Cs — tropical savanna and Mediterranean
B) ET/EF — tundra and ice cap
C) Af/Ca — tropical rainy and humid subtropical
D) Af/Aw — tropical rainy and tropical savanna
E) BS/BW — steppe and desert

Answer: D
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

30) Cape Town, South Africa at about 34° south latitude, has what type of climate? 30) _____
A) Cs — Mediterranean
B) Af — Tropical rainy
C) Aw — Tropical savanna
D) BW — Desert
E) ET — Tundra

Answer: A
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

31) Anthropogenic pollution is caused by 31) _____
A) anthropologists.
B) animals.
C) people.
D) climate.
E) rocks.

Answer: C
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.4 Define the greenhouse effect and explain how it is related to anthropogenic climate change.

32) Computer models predict that average global temperatures will increase _____ by 2020. 32) _____
A) 1°F. B) 10°F. C) -2°F. D) 3.6°F. E) 4°F.

Answer: D
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.4 Define the greenhouse effect and explain how it is related to anthropogenic climate change.

33) Which atmospheric gas is closely linked to the greenhouse effect? 33) _____
A) methane
B) chlorofluorocarbons
C) nitrous oxide
D) carbon dioxide
E) ozone

Answer: D
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.4 Define the greenhouse effect and explain how it is related to anthropogenic climate change.

34) At Kyoto in 1997, what did the 30 Western industrialized countries legally agree to do? 34) _____
A) reduce emissions of greenhouse gases to 1990 levels
B) censure China for exceeding its carbon limits
C) finance further studies to determine the cause of climate change
D) voluntarily limit greenhouse gas emissions
E) reduce emissions of greenhouse gases by half

Answer: A
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.5 Summarize the major issues underlying the international efforts to address climate change.

35) The rich diversity of plants and animals on Earth is known as 35) _____
A) bioregion.
B) biore.
C) biogeography.
D) bionicle.
E) biosdiversity

Answer: E
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.7 Name some threats to Earth's biodiversity.

36) An assemblage of local plants, animals, and insects covering a large area such as a tropical rainforest or a grassland is called a 36) _____
A) bionicle.
B) biogeography.
C) bioregion.
D) biosphere.
E) biore.

Answer: C
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

37) Tropical savanna bioregions are found in which climate type? 37) _____

A) Af B) Cs C) Am D) BW E) Aw

Answer: E
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

38) Arctic latitudes will have what type of vegetation? 38) _____

A) tropical rain forest
B) tundra
C) deciduous forests
D) tropical grasslands
E) evergreen forests

Answer: B
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

39) The majority of the African continent is dominated by which three bioregions? 39) _____

A) evergreen forest, tundra and ice
B) evergreen forest, tropical rain forest and desert
C) temperate deciduous forest, tropical rain forest and evergreen forest
D) tropical rain forest, tropical savanna and desert
E) tropical rain forest, desert and tundra

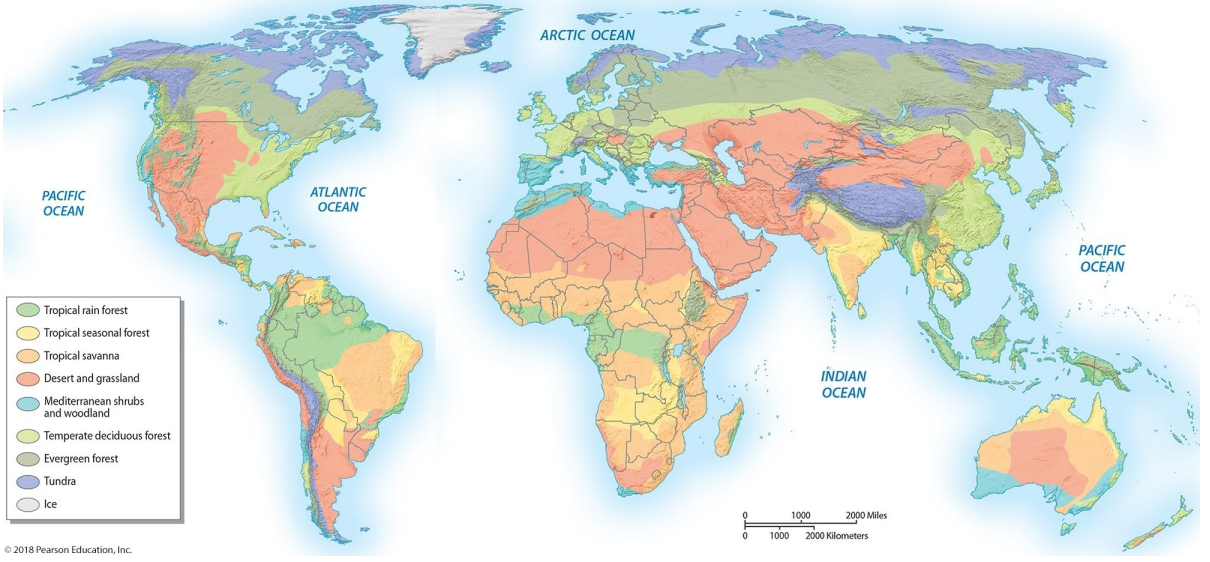
Answer: D
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

40) The desert/grassland biome is found primarily where? 40) _____

A) along the Equator
B) along coastal regions in tropical regions of the world
C) exclusively in Africa and Asia
D) in polar latitudes
E) in lower to mid-latitudes in both hemispheres

Answer: E
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

41) What type of bioregion is most often found along the equator? 41) _____



A) broadleaf or mixed broadleaf and coniferous forest
B) tropical forests
C) coniferous forest
D) tundra
E) Mediterranean woodland

Answer: B
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

42) Where are most tropical rainforests located? 42) _____

A) near the south pole
B) in the middle latitudes
C) near the equator
D) near the north pole
E) Their location is random.

Answer: C
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

43) Where are grasslands most likely to occur? 43) _____

A) tundra
B) coniferous forests
C) steppes
D) temperate forests
E) tropical forests

Answer: C
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

44) With climate zone will have evergreen and deciduous forests? 44) _____
A) tropical monsoon
B) humid subtropical
C) tundra
D) Mediterranean
E) humid continental

Answer: E
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

45) The immense pressure humans have placed on various global bioregions has given rise to what phenomenon? 45) _____
A) tree hybrids
B) biodiversity
C) increased precipitation
D) old-growth forests
E) novel ecosystems

Answer: E
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.7 Name some threats to Earth's biodiversity.

46) The root systems of trees in tropical rain forests expand outward from the tree because 46) _____
A) the trees are very short and do not need deep roots.
B) the ground temperatures in tropical forests are too high to allow for deep roots.
C) there is a shortage of rainfall in the region tends to prohibit effective plant growth.
D) the ground layer of vegetation in tropical forests is so thick so the roots extract nutrients from the vegetation.
E) the mineral content of the soil is shallow and hence roots expand laterally rather than vertically to exploit the shallow nutrient layer.

Answer: E
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

47) In which bioregion at low latitudes has a climate in which rain falls for only a part of the year? 47) _____
A) Steppe
B) Tropical Savanna
C) Deciduous Forests
D) Tropical Rainforest
E) Mediterranean

Answer: B
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

48) Which of the following forests are made up of cone-bearing trees? 48) _____
A) deciduous
B) tropical savanna
C) polar
D) evergreen
E) tropical rain forest

Answer: D
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

49) What percent of the world's total species could be extinct by 2050? 49) _____
A) 35% B) 25% C) 5% D) 50% E) 95%

Answer: D
Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.7 Name some threats to Earth's biodiversity.

50) What percentage of Earth's water is freshwater? 50) _____
A) 40% B) 75% C) 97% D) 3% E) 20%

Answer: D
Topic/Section: 4 Water: A Scarce Resource
Learning Outcome: 2.8 Identify the causes of global water stress.

51) Groundwater accounts for what percentage of Earth's freshwater? 51) _____
A) 97% B) 3% C) 75% D) 20% E) 30%

Answer: E
Topic/Section: 4 Water: A Scarce Resource
Learning Outcome: 2.8 Identify the causes of global water stress.

52) What percentage of Earth's freshwater is locked up in polar ice caps? 52) _____
A) 30% B) 20% C) 70% D) 97% E) 3%

Answer: C
Topic/Section: 4 Water: A Scarce Resource
Learning Outcome: 2.8 Identify the causes of global water stress.

53) What percentage of Earth's freshwater is accessible in surface rivers and lakes? 53) _____
A) 70% B) 30% C) 97% D) 10% E) 1%

Answer: E
Topic/Section: 4 Water: A Scarce Resource
Learning Outcome: 2.8 Identify the causes of global water stress.

54) Which global region has the highest overall water stress? 54) _____
A) Europe
B) Australia
C) North America
D) North Africa
E) Southeast Asia

Answer: D
Topic/Section: 4 Water: A Scarce Resource
Learning Outcome: 2.8 Identify the causes of global water stress.

55) What percentage of the African population will likely experience water stress by 2025? 55) _____
A) 10% B) 75% C) 95% D) 25% E) 50%

Answer: B
Topic/Section: 4 Water: A Scarce Resource
Learning Outcome: 2.8 Identify the causes of global water stress.

56) The UN reports that how many children die each day from unsafe water and lack of basic sanitation? 56) _____
A) 100 B) 10000 C) 40000 D) 4000 E) 400

Answer: D
Topic/Section: 4 Water: A Scarce Resource
Learning Outcome: 2.8 Identify the causes of global water stress.

57) The primary gatherers of water in the developing world are 57) _____
A) young boys
B) women and children
C) small children of both sexes
D) able-bodied young men
E) elderly people of both sexes

Answer: B
Topic/Section: 4 Water: A Scarce Resource
Learning Outcome: 2.8 Identify the causes of global water stress.

58) What water policy, advocated by the World Bank and International Monetary Fund, has made it more difficult for some people to gain access to water? 58) _____
A) irrigation
B) government regulation
C) privatization
D) the Kyoto Protocol
E) U.N Convention on the Law of the Sea

Answer: C
Topic/Section: 4 Water: A Scarce Resource
Learning Outcome: 2.8 Identify the causes of global water stress.

59) Which of the following has NOT been a result of the introduction of the Wello WaterWheel in rural India? 59) _____
A) a reduction in the number of hours a week spent carrying water
B) a reduction in neck and back problems among women
C) an increase in female literacy
D) an increase in the amount of water available for agriculture
E) a decrease in the school dropout rate among young girls

Answer: D
Topic/Section: 4 Water: A Scarce Resource
Learning Outcome: 2.8 Identify the causes of global water stress.

60) Which of the following is a fossil fuel? 60) _____

A) petroleum
B) hydrogen/fuel cell
C) ethanol
D) nuclear energy
E) wood

Answer: A
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

61) Which of the following pairs are a renewable energy source? 61) _____

A) wind and solar
B) solar and natural gas
C) wind and natural gas
D) coal and wind
E) hydrologic and oil

Answer: A
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.10 List the advantages and disadvantages of different kinds of renewable energy.

62) What percent of the world's power is generated from renewable sources? 62) _____

A) 7% B) 5% C) 10% D) 3% E) 20%

Answer: C
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.10 List the advantages and disadvantages of different kinds of renewable energy.

63) Most of the world's power is generated by 63) _____

A) hydropower.
B) coal.
C) natural gas.
D) oil.
E) nuclear.

Answer: D
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

64) Fossil fuels 64) _____

A) are evenly distributed around the world
B) comprise roughly 50% of current global energy needs
C) include wind, solar and natural gas
D) are linked to environmental damage, most notably the emission of greenhouse gases
E) are a renewable energy source

Answer: D
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

65) Proven reserves of oil are determined by 65) _____

A) the total of all oil deposits that have been mined.
B) the estimated remaining deposits of the resources
C) an estimate of oil deposits not yet discovered.
D) identified areas of possible fossil fuels.
E) deposits that are possible to mine and be distributed under current economic and technological conditions

Answer: E
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

66) Hydraulic fracturing (fracking) is 66) _____

A) a technique which forces oil and gas out of shale rock.
B) a long-established technique of drilling for water that dates back centuries
C) the use of cold fusion to produce nuclear power.
D) an experimental technique for extracting oil from the ocean floor.
E) a new technique of producing power using water.

Answer: A
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

67) The nation with the greatest percentage of global proven oil reserves is 67) _____

TABLE 2.1 2015 Geography of Fossil Fuels

MasteringGeography™

Proven Reserves	World Share	Production	World Share	Consumption	World Share
Oil		**Oil**		**Oil**	
Venezuela	17.7%	Saudi Arabia	13%	United States	19.7%
Saudi Arabia	15.7%	United States	13%	China	12.9%
Canada	10.1%	Russia	12.4%	India	4.5%
Iran	9.3%	China	4.9%	Japan	4.4%
Iraq	8.4%	Iraq	4.5%	Brazil	3.2%
Coal		**Coal**		**Coal**	
United States	26.6%	China	47.7%	China	50%
Russia	17.6%	United States	11.9%	India	10.6%
China	12.8%	Australia	7.2%	United States	10.3%
Australia	8.6%	Indonesia	6.3%	Japan	3.1%
India	6.8%	India	7.4%	South Africa	2.2%
Natural Gas		**Natural Gas**		**Natural Gas**	
Iran	18.2%	United States	22%	United States	22.8%
Russia	17.3%	Russia	16.1%	Russia	11.2%
Qatar	13.1%	Iran	5.4%	China	5.7%
Turkmenistan	9.4%	Qatar	5.1%	Iran	5.5%
United States	5.6%	Canada	4.6%	Japan	3.3%
				Nuclear Energy	
				United States	32.6%
				France	17%
				South Korea	6.6%
				China	4.4%
				Canada	4%

Source: BP Statistics, 2015 (June 2016)

Login to MasteringGeography™ & access MapMaster to explore these data!

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2) Conversely, if a country is one of the world leaders with a proven reserve of an energy source but is not a world leader in production of that energy source one can assume they're either not capable of high production and/or are banking those reserves for the future. Which countries fall into that category?

A) Iraq
B) Saudi Arabia
C) Canada
D) Venezuela
E) Iran

Answer: B

Topic/Section: 5 Global Energy: The Essential Resource

Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

68) The United States currently consumes roughly what percent of the world's oil? 68) _____

TABLE 2.1 2015 Geography of Fossil Fuels

MasteringGeography™

Proven Reserves	World Share	Production	World Share	Consumption	World Share
Oil		**Oil**		**Oil**	
Venezuela	17.7%	Saudi Arabia	13%	United States	19.7%
Saudi Arabia	15.7%	United States	13%	China	12.9%
Canada	10.1%	Russia	12.4%	India	4.5%
Iran	9.3%	China	4.9%	Japan	4.4%
Iraq	8.4%	Iraq	4.5%	Brazil	3.2%
Coal		**Coal**		**Coal**	
United States	26.6%	China	47.7%	China	50%
Russia	17.6%	United States	11.9%	India	10.6%
China	12.8%	Australia	7.2%	United States	10.3%
Australia	8.6%	Indonesia	6.3%	Japan	3.1%
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2) Conversely, if a country is one of the world leaders with a proven reserve of an energy source but is not a world leader in production of that energy source one can assume they're either not capable of high production and/or are banking those reserves for the future. Which countries fall into that category?

A) 20% B) 25% C) 5% D) 10% E) 50%

Answer: A

Topic/Section: 5 Global Energy: The Essential Resource

Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

69) The largest current producer of natural gas is 69) _____

TABLE 2.1 2015 Geography of Fossil Fuels MasteringGeography™

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A) Russia
B) Qatar
C) Iran
D) Canada
E) United States

Answer: E

Topic/Section: 5 Global Energy: The Essential Resource

Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

70) The global leader in nuclear energy consumption is 70) _____

TABLE 2.1 2015 Geography of Fossil Fuels MasteringGeography™

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Russia	17.6%	United States	11.9%	India	10.6%
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Australia	8.6%	Indonesia	6.3%	Japan	3.1%
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Natural Gas		**Natural Gas**		**Natural Gas**	
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Russia	17.3%	Russia	16.1%	Russia	11.2%
Qatar	13.1%	Iran	5.4%	China	5.7%
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A) Canada
B) United States
C) Russia
D) France
E) China

Answer: B

Topic/Section: 5 Global Energy: The Essential Resource

Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

71) The United States produces _____% of the global supply of coal but currently consumes _____% of the global demand. 71) _____

TABLE 2.1 2015 Geography of Fossil Fuels

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China	12.8%	Australia	7.2%	United States	10.3%
Australia	8.6%	Indonesia	6.3%	Japan	3.1%
India	6.8%	India	7.4%	South Africa	2.2%
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A) 11.9%, 26.6%
B) 26.6%, 10.3%
C) 10.3%, 26.6%
D) 11.9%, 10.3%
E) 26.6%, 11.9%

Answer: D
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

72) Which two nations are both among the top five consumers of oil, coal and natural gas? 72) _____

TABLE 2.1 2015 Geography of Fossil Fuels

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				Canada	4%

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2) Conversely, if a country is one of the world leaders with a proven reserve of an energy source but is not a world leader in production of that energy source one can assume they're either not capable of high production and/or are banking those reserves for the future. Which countries fall into that category?

A) Russia and China
B) China and the United States
C) Russia and the United States
D) India and the United States

Answer: B
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

73) What country generates almost all (95%) of its power from renewable sources? 73) _____

A) Germany
B) Iceland
C) Denmark
D) Sweden
E) Great Britain

Answer: B
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.10 List the advantages and disadvantages of different kinds of renewable energy.

74) What major industrial power currently generates 20% of its total energy budget from renewable resources? 74) _____
A) Denmark
B) Great Britain
C) Germany
D) United States
E) China

Answer: C
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.10 List the advantages and disadvantages of different kinds of renewable energy.

75) The majority of China's renewable energy comes from 75) _____
A) hydropower
B) coal
C) nuclear
D) solar
E) wind

Answer: A
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.10 List the advantages and disadvantages of different kinds of renewable energy.

76) What is the primary reason that global energy demand is forecast to increase 40% by 2030? 76) _____
A) Japan's increased energy usage
B) due to immigration, Europe's consumption of energy will rise
C) the United States consumption of energy is predicted to increase dramatically
D) the further industrialization of developing economies
E) the movement away from fossil fuels to renewable energy sources will lead to more demand

Answer: D
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

77) The tropical location of Africa sitting astride the Equator makes it a prime location for the expansion of which renewable energy industry? 77) _____
A) solar
B) nuclear
C) coal
D) wind
E) hydropower

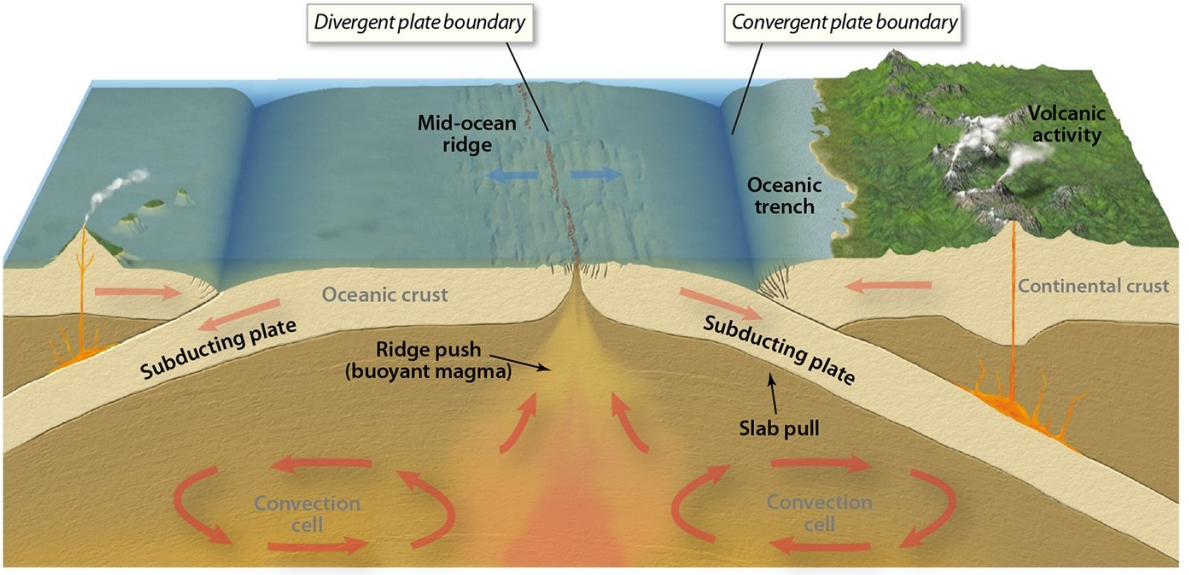
Answer: A
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.10 List the advantages and disadvantages of different kinds of renewable energy.

78) What is a problem with power generated by wind or sun? 78) _____
A) It can create power surges that endanger the power grid.
B) Energy cannot be transferred from sunny or windy areas to other areas.
C) It requires constant sun or wind.
D) governments rarely give tax subsidies to renewable energy industries
E) It results in extensive disruption of local power sources.

Answer: A
Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.10 List the advantages and disadvantages of different kinds of renewable energy.

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

79) Discuss the relationship between plate tectonics and the location of seismic activity around the world.



Answer: Discussion should begin with a description of the forces that cause the movement of tectonic plates, then compare the map of plates with the map of seismic activity, noting that there is a strong correlation between the location of the edges of tectonic plates and the location of earthquakes and volcanoes.

Topic/Section: 1 Geology: A Restless Earth

Learning Outcome: 2.1 Describe those aspects of tectonic plate theory responsible for shaping Earth's surface.

80) What geologic hazards do humans face around the world? Discuss the reasons for differences in the experience of these geologic hazards around the world and also the potential benefits to humans from hazards such as volcanism.

Answer: Earthquakes and volcanoes are major geologic hazards to humans globally. However, the experience of groups globally varies in the midst of such events. For instance the 2008 earthquake in Haiti killed almost a quarter of a million people whereas the 2011 earthquake and tsunami in Japan killed about 20,000. These differences are affected by the standards for building in individual areas, how densely populated an area is, the types of houses people live in, and the effectiveness of local and regional search and rescue and relief organizations. Volcanic eruptions, although dangerous, have also been important to human settlement. Volcanoes are much easier to predict than earthquakes so loss of life tends to be lower. In addition, geothermal activity generated by volcanism can be captured as a renewable energy source (as in Iceland). Volcanic ash may also enhance local soils, making them better for agriculture. Finally, many local economies benefit from tourist revenue generated by the draw of scenic volcanic landscapes.

Topic/Section: 1 Geology: A Restless Earth

Learning Outcome: 2.2 Identify on a map those parts of the world where earthquakes and volcanoes are hazardous to human settlement.

81) Please explain the major climatic controls and how they have an effect on meteorological conditions.

Answer: Climate controls are: Solar energy, latitude, interaction between land and water, global pressure systems, and global wind patterns.

Topic/Section: 2 Global Climates: Adapting to Change

Learning Outcome: 2.3 List the factors that control the world's weather and climate.

82) Describe orographic lifting, making certain to address the rain shadow effect in your response.

Answer: Orographic lifting requires the presence of a mountain range. A prevailing wind current is pushed up the side of a mountain. The air becomes cooler as it rises, eventually hitting a temperature where it condenses and comes down as precipitation. This side of the mountain is known as the windward (or wet) side of the mountain. The air eventually loses its moisture content and as it passes over the top of the mountain it begins the trip down the backside of the mountain. The air is now dense and dry and the backside of the mountain is known as the leeward side and sits in what is known as the rain shadow. It is not uncommon in parts of the world to have lush green vegetation on one side of a mountain and a barren desert moonscape on the opposite side.

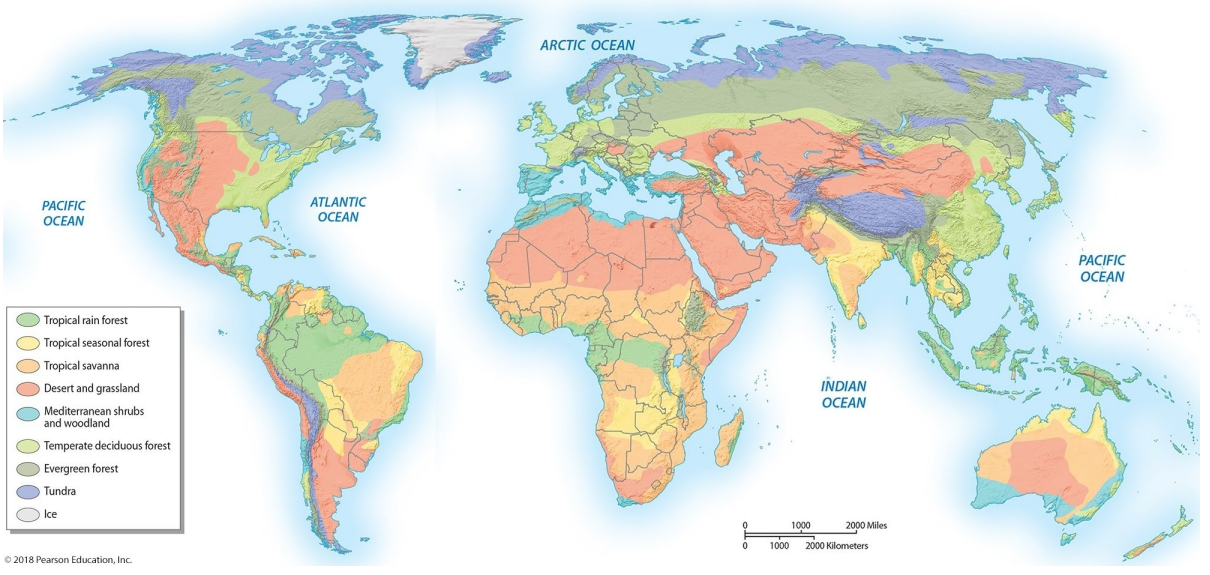
Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.3 List the factors that control the world's weather and climate.

83) What are the major causes and effects of climate change?

Answer: Causes: increase of greenhouse gases (carbon dioxide, chlorofluorocarbons, methane, nitrous oxide). Effects: rising temperatures (2-4 degrees), shift in major agricultural areas, decrease in grain production, rising sea levels.

Topic/Section: 2 Global Climates: Adapting to Change
Learning Outcome: 2.4 Define the greenhouse effect and explain how it is related to anthropogenic climate change.

84) Identify and discuss the pattern of bioregions on Earth.



Answer: Tropics: wet climates, including rainforests; to the immediate north and south: grasslands and deserts; middle latitudes: temperate forests (deciduous and conifer); high latitudes: tundra. These bioregions are intricately tied to such factors as latitude, rainfall, proximity to warm/cool ocean currents and elevation

Topic/Section: 3 Bioregions & Biodiversity: The Globalization of Nature
Learning Outcome: 2.6 Locate on a map and describe the characteristics and distribution of the world's major bioregions.

85) In an essay discuss the concepts of water scarcity, water sanitation and water access.

Answer: Water scarcity refers to areas of the world where water shortages are common. As population increases, water problems will become even more acute. Clean water is unavailable for millions on the planet. Very high death rates exist in areas where people use polluted water for their daily needs. This toll is especially high for infants and children. Water access may not be difficult for people just because of water scarcity. Instead, many cannot access water because they must travel long distances to do so or because the water is too costly (privatization has made affordable water more of a problem).

Topic/Section: 4 Water: A Scarce Resource
Learning Outcome: 2.8 Identify the causes of global water stress.

86) Describe how the Wello Water Wheel has improved the lives of women in Rajasthan in rural India.

Answer: The collection and transport of water for household cooking and chores has long been the responsibility of women. Water stress has required women to travel increasingly further distances to find and transport water back to their village. The heavy jugs they carry can often cause chronic neck and back pain. The Wello Water Wheel enables women to transport water faster back to their villages. The results of the invention now free up time for young girls to attend school; studies have shown that the introduction of the Wello Water Wheel have improved female school attendance and literacy.

Topic/Section: 4 Water: A Scarce Resource
Learning Outcome: 2.8 Identify the causes of global water stress.

87) In an essay, discuss the environmental risks associated with hydraulic fracturing (fracking).

Answer: Fracking is a new way in which natural gas can be extracted from deep layers of shale. Critics of fracking point to a host of potential environmental problems. These include pollution of local groundwater supplies, the generation of earthquakes because of the movement of deep layers of rock and the tremendous amount of water which is needed to engage in the process of hydraulic fracking.

Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.9 Describe the world geography of fossil fuel production and consumption.

88) In an essay, discuss the most important sources of renewable energy and their potential drawbacks and benefits.

Answer: Hydroelectric, geothermal, tidal currents and biofuels are all potential renewable energy sources, but solar and wind power may be the most widely used renewable resource. Iceland is able to use geothermal energy to meet 95% of its power needs. Germany has invested heavily in solar energy and wind energy. Problems include the potential for power surges on particularly sunny and windy days. Most facilities must have a backup power source for times when it is not windy nor sunny. There may be considerable cost in upgrading existing power grids to handle these energy fluctuations. In addition, government subsidies for fossil fuels have traditionally made these much less expensive than renewable sources.

Topic/Section: 5 Global Energy: The Essential Resource
Learning Outcome: 2.10 List the advantages and disadvantages of different kinds of renewable energy.