

Chapter 02 - Physical Processes and World Regions

True / False

1. The scientific community was initially unwilling to accept Alfred Wegener's continental drift hypothesis because he could not explain how continents moved.

- a. True
- b. False

ANSWER: True

REFERENCES: 2.1 Geologic Processes and Landforms

LEARNING OBJECTIVES: FWRG.HOBB.17.2.1 - Understand the tectonic forces behind some of the world's major landforms and natural hazards

KEYWORDS: Bloom's: Remember

2. The globe's most active and deadly realm of tectonic activity is the so-called Mid-Atlantic Ring of Fire.

- a. True
- b. False

ANSWER: False

RATIONALE: The globe's most active and deadly realm of tectonic activity is the so-called Ring of Fire on the rim of the Pacific Ocean.

REFERENCES: 2.1 Geologic Processes and Landforms

LEARNING OBJECTIVES: FWRG.HOBB.17.2.1 - Understand the tectonic forces behind some of the world's major landforms and natural hazards

KEYWORDS: Bloom's: Remember

3. Earthquakes, the emergence of new landforms, and other geologic events occur in places where sections of Earth's crust are in contact with each other, also known as plate boundaries.

- a. True
- b. False

ANSWER: True

REFERENCES: 2.1 Geologic Processes and Landforms

LEARNING OBJECTIVES: FWRG.HOBB.17.2.1 - Understand the tectonic forces behind some of the world's major landforms and natural hazards

KEYWORDS: Bloom's: Remember

4. Precipitation results from processes that warm the air, since warm air holds less moisture than cool air.

- a. True
- b. False

ANSWER: False

RATIONALE: Warm air holds more moisture than cool air, and precipitation—rain, snow, sleet, and hail—results from processes that cool the air to release moisture.

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Understand

5. In the Köppen Climate classification system, climate zones are delineated based on types of vegetation and amount of sunlight received.

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- a. True
- b. False

ANSWER: False

RATIONALE: Köppen's climate types are based on measurements of monthly and yearly temperatures and precipitation.

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

6. There is a high degree of correlation between biomes and climate types.

- a. True
- b. False

ANSWER: True

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

7. Surprisingly, the highest levels of biodiversity are found in the subarctic and polar biomes.

- a. True
- b. False

ANSWER: False

RATIONALE: The highest biodiversity in the world is found in the tropical and subtropical moist broadleaf forest biome.

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

8. Earth's surface is approximately 50% land and 50% water.

- a. True
- b. False

ANSWER: False

RATIONALE: About 70 percent of the world's surface is comprised of water.

REFERENCES: 2.4 The World's Oceans

LEARNING OBJECTIVES: FWRG.HOBB.17.2.4 - Appreciate the important roles of the world's oceans

KEYWORDS: Bloom's: Remember

9. IPCC is an acronym that stands for International Policy on Climate Change.

- a. True
- b. False

ANSWER: False

RATIONALE: IPCC is an acronym that stands for Intergovernmental Panel on Climate Change.

REFERENCES: 2.5 Global Climate Change

Chapter 02 - Physical Processes and World Regions

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

10. Recent global warming has been caused by human production of greenhouse gasses.

- a. True
- b. False

ANSWER: True

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

11. The impacts of climate change are expected to be greatest in the polar regions.

- a. True
- b. False

ANSWER: True

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

12. The Montreal Protocol calls for actions to limit future warming of the atmosphere to no more than 2° C.

- a. True
- b. False

ANSWER: False

RATIONALE: Thanks to the Montreal Protocol and its amendments, signed by 37 countries in the late 1980s, the production of CFCs worldwide was reduced in phases to zero by 2010.

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

13. Weather and climate both refer to atmospheric conditions for a place, the key difference in the two is timespan.

- a. True
- b. False

ANSWER: True

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

14. The term climate type and biome are interchangeable or synonymous.

- a. True
- b. False

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ANSWER: False

RATIONALE: Geographers recognize ten to twenty major types of terrestrial ecosystems called biomes. Biomes take into account the natural vegetation of an area where climate types do not.

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

15. Mangroves are salt-water swamps that protect coastlines from erosion.

- a. True
- b. False

ANSWER: True

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

16. Monocultures increase the biodiversity of a land area.

- a. True
- b. False

ANSWER: False

RATIONALE: Monocultures are single crop plantings and reduce the natural diversity of crop varieties.

REFERENCES: 2.3 Biodiversity

LEARNING OBJECTIVES: FWRG.HOBB.17.2.3 - Identify the natural areas most threatened by human activity and explain how natural habitat loss may endanger human welfare

KEYWORDS: Bloom's: Understand

17. The Green Revolution puts more food on the global table as it increases the diversity of crop varieties that are planted.

- a. True
- b. False

ANSWER: False

RATIONALE: In evolutionary terms, the Green Revolution has reduced the natural diversity of crop varieties that allows nature and farmer to turn to alternatives when adversity strikes.

REFERENCES: 2.3 Biodiversity

LEARNING OBJECTIVES: FWRG.HOBB.17.2.3 - Identify the natural areas most threatened by human activity and explain how natural habitat loss may endanger human welfare

KEYWORDS: Bloom's: Remember

18. The hydrologic cycle, powered by tidal forces and gravity, is the process that moves water between the oceans, the sky, and the land.

- a. True
- b. False

ANSWER: False

RATIONALE: Oceans have the largest role in the hydrologic cycle, which is the process, powered

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by the sun's energy that moves water between the oceans, the sky, and the land.

REFERENCES: 2.4 The World's Oceans

LEARNING OBJECTIVES: FWRG.HOBB.17.2.4 - Appreciate the important roles of the world's oceans

KEYWORDS: Bloom's: Remember

19. The collapse of fisheries is most noticeable among the smaller fish that are consumed by larger predatory fish, such as sharks and tuna.

- a. True
- b. False

ANSWER: False

RATIONALE: The decline of fish species are most extreme among stocks of large predatory fish like sharks, tuna, and swordfish.

REFERENCES: 2.4 The World's Oceans

LEARNING OBJECTIVES: FWRG.HOBB.17.2.4 - Appreciate the important roles of the world's oceans

KEYWORDS: Bloom's: Remember

20. The demand for seafood, although high, has not changed much since 1980.

- a. True
- b. False

ANSWER: False

RATIONALE: The demand for seafood has grown over forty percent since 1980.

REFERENCES: 2.4 The World's Oceans

LEARNING OBJECTIVES: FWRG.HOBB.17.2.4 - Appreciate the important roles of the world's oceans

KEYWORDS: Bloom's: Remember

21. Unless major steps are taken quickly in ocean preservation and fishing limits, it is predicted that there will be a "global collapse" of all species currently fished by the year 2050.

- a. True
- b. False

ANSWER: True

REFERENCES: 2.4 The World's Oceans

LEARNING OBJECTIVES: FWRG.HOBB.17.2.4 - Appreciate the important roles of the world's oceans

KEYWORDS: Bloom's: Remember

22. Most heat absorbed by Earth will escape to space via the buildup of greenhouse gasses.

- a. True
- b. False

ANSWER: False

RATIONALE: Most heat absorbed by Earth will be emitted to the atmosphere, absorbed by greenhouse gasses and radiated back to Earth.

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

Chapter 02 - Physical Processes and World Regions

23. Carbon dioxide is primarily released to the atmosphere from rice paddies, the guts of ruminating animals, and thawing permafrost.

- a. True
- b. False

ANSWER: False

RATIONALE: Methane is primarily released to the atmosphere from rice paddies, the guts of ruminating animals, and thawing permafrost.

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

24. Potential evaporation, a measure of how much water would be evaporated in a given area if there was unlimited available water, is highest in the colder, upper latitudes.

- a. True
- b. False

ANSWER: False

RATIONALE: Potential evaporation, a measure of how much water would be evaporated in a given area, if there was unlimited available water, is highest in the warmer, lower latitudes.

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

25. Polar latitudes receive less rainfall than equatorial latitudes.

- a. True
- b. False

ANSWER: True

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

Multiple Choice

26. Which climate type commonly found along coastlines is characterized by mild winters and hot summers with little to no precipitation?

- a. tropical savanna
- b. Mediterranean
- c. oceanic
- d. humid subtropical
- e. humid continental

ANSWER: b

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

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KEYWORDS: Bloom's: Remember

27. What factor most influences the distribution of vegetation around the world?
- evaporation
 - longitude
 - climate
 - seismic activity
 - weather

ANSWER: c

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

28. What criteria do scientists use to group biomes of various vegetation together?
- temperature and precipitation
 - topography
 - plant structure, water requirements, and leaf types
 - degree of urbanization
 - climate

ANSWER: c

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Understand

29. In which biome is the highest biodiversity found?
- mangroves
 - boreal forest
 - temperate broadleaf and mixed forests
 - tropical and subtropical dry broadleaf forest
 - tropical and subtropical moist broadleaf forest

ANSWER: e

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

30. Which biome lacks trees, has widespread permafrost, and is the coldest on Earth?
- tundra
 - cryosphere
 - temperate
 - taiga
 - xeric shrublands

ANSWER: a

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REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

31. What is the main energy source for the hydrologic cycle?

- a. evaporative cooling
- b. greenhouse effect
- c. gravity
- d. solar energy
- e. natural gas

ANSWER: d

REFERENCES: 2.4 The World's Oceans

LEARNING OBJECTIVES: FWRG.HOBB.17.2.4 - Appreciate the important roles of the world's oceans

KEYWORDS: Bloom's: Remember

32. What is the cultivation of aquatic organisms for food called?

- a. monoculture
- b. marine tilling
- c. marine harvesting
- d. aquaculture
- e. sea reaping

ANSWER: d

REFERENCES: 2.4 The World's Oceans

LEARNING OBJECTIVES: FWRG.HOBB.17.2.4 - Appreciate the important roles of the world's oceans

KEYWORDS: Bloom's: Remember

33. What term describes the number of plant and animal species present along with the variety of genetic material present in these organisms?

- a. biodiversity
- b. biomes
- c. bioculture
- d. biodiversity hotspot
- e. biozone

ANSWER: a

REFERENCES: 2.3 Biodiversity

LEARNING OBJECTIVES: FWRG.HOBB.17.2.3 - Identify the natural areas most threatened by human activity and explain how natural habitat loss may endanger human welfare

KEYWORDS: Bloom's: Remember

34. Ninety percent of global trade occurs via sea freight because _____.

- a. sea freight is safer
- b. air freight is more expensive
- c. sea freight saves time
- d. air freight contributes more to global warming

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e. sea freight creates more jobs

ANSWER: b

REFERENCES: 2.4 The World's Oceans

LEARNING OBJECTIVES: FWRG.HOBB.17.2.4 - Appreciate the important roles of the world's oceans

KEYWORDS: Bloom's: Understand

35. Which greenhouse gas is released to the atmosphere from the burning of coal, oil, and natural gas?

- a. carbon dioxide
- b. methane
- c. nitrous oxide
- d. chlorofluorocarbons
- e. ozone

ANSWER: a

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

36. The IPCC estimates that, at best, Earth's average global temperature will rise by how much more?

- a. 1° F – 2° F
- b. 2° F – 7° F
- c. 5° F – 7° F
- d. 5° F – 10° F
- e. Less than 1°F

ANSWER: b

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

37. When sea ice melts, the darker ocean surface that is revealed absorbs more solar radiation, which in turn causes warming and melts more ice, which in turn creates a greater area of darker ocean surface. What is this process called?

- a. polar amplification
- b. negative feedback loop
- c. tipping point
- d. climatic cycling
- e. polar oscillations

ANSWER: a

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

38. Mitigation is one approach to reduce the unavoidable impacts of climate change in the long term. What is one mitigation strategy?

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- a. building sea walls and dikes
- b. relocating people
- c. developing new crop varieties
- d. establishing a recycling program
- e. implement cap and trade programs

ANSWER: e

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

39. Which country never ratified the Kyoto Protocol?

- a. China
- b. India
- c. France
- d. Russia
- e. United States

ANSWER: e

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

40. Which climate change treaty committed the countries that signed and ratified it to reducing carbon dioxide emissions below 1990 levels?

- a. Montreal Protocol
- b. United Nations Framework Convention on Climate Change
- c. Kyoto Protocol
- d. Montreal Agreement
- e. Clean Development Mechanism

ANSWER: c

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

41. Which layer of Earth is divided into tectonic plates?

- a. lithosphere
- b. asthenosphere
- c. mantle
- d. inner core
- e. outer core

ANSWER: a

REFERENCES: 2.1 Geologic Processes and Landforms

LEARNING OBJECTIVES: FWRG.HOBB.17.2.1 - Understand the tectonic forces behind some of the world's major

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landforms and natural hazards

KEYWORDS: Bloom's: Remember

42. Plate tectonics is like a "conveyor belt," with new material created at _____, and old material recycled back into the mantle at _____.

- a. trenches; subduction zones
- b. mid-ocean ridges; subduction zones
- c. convergent boundaries; subduction zones
- d. subduction zones; mid-ocean ridges
- e. mid-ocean ridges; rift zones

ANSWER: b

REFERENCES: 2.1 Geologic Processes and Landforms

LEARNING OBJECTIVES: FWRG.HOBB.17.2.1 - Understand the tectonic forces behind some of the world's major landforms and natural hazards

KEYWORDS: Bloom's: Remember

43. All oceans, ice, and freshwater sources are included in Earth's _____.

- a. lithosphere
- b. hydrosphere
- c. biosphere
- d. atmosphere
- e. exosphere

ANSWER: b

REFERENCES: 2.1 Geologic Processes and Landforms

LEARNING OBJECTIVES: FWRG.HOBB.17.2.1 - Understand the tectonic forces behind some of the world's major landforms and natural hazards

KEYWORDS: Bloom's: Remember

44. What is the natural capture and long-term storage of carbon in sinks such as forests, farmlands, and oceans called?

- a. cap and trade
- b. carbon sequestration
- c. environmental degradation
- d. clean development mechanism
- e. carbon scrubbing

ANSWER: b

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

45. Which two countries emit approximately 40% of all the world's carbon dioxide?

- a. United States and Russia
- b. United States and Germany
- c. United States and China
- d. China and Russia

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e. China and India

ANSWER: c

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

Completion

46. The theoretical point at which an impact becomes irreversible is known as a(n) _____.

ANSWER: tipping point

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

47. Places on Earth that are both biologically rich and deeply threatened by human activities are known as _____, which scientists believe deserve immediate attention for study and conservation.

ANSWER: biodiversity hotspots

REFERENCES: 2.3 Biodiversit

LEARNING OBJECTIVES: FWRG.HOBB.17.2.3 - Identify the natural areas most threatened by human activity and explain how natural habitat loss may endanger human welfare

KEYWORDS: Bloom's: Remember

48. Atmospheric carbon dioxide, nitrous oxide, and methane are examples of _____, whose increase has caused global warming.

ANSWER: greenhouse gasses

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

49. IPCC scientists argue that where possibly dangerous, irreversible, or catastrophic events are involved, policy should be based on the _____, which states adverse events should be preempted by action.

ANSWER: precautionary principle

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

50. The tectonic process of one plate "diving" beneath another is called _____.

ANSWER: subduction

REFERENCES: 2.1 Geologic Processes and Landforms

LEARNING OBJECTIVES: FWRG.HOBB.17.2.1 - Understand the tectonic forces behind some of the world's major landforms and natural hazards

KEYWORDS: Bloom's: Remember

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51. Phenomena such as floods, tornadoes, and volcanic eruptions are some of Earth's _____, defined as those elements of the physical environment, harmful to people and caused by forces extraneous to them.

ANSWER: natural hazards

REFERENCES: 2.1 Geologic Processes and Landforms

LEARNING OBJECTIVES: FWRG.HOBB.17.2.1 - Understand the tectonic forces behind some of the world's major landforms and natural hazards

KEYWORDS: Bloom's: Remember

52. Mountainous areas of the tropics and midlatitudes are designated _____ because they are regions where no single climate or vegetation dominates.

ANSWER: undifferentiated highlands

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

53. The number of plant and animal species present and the variety of genetic materials these organisms contain is called _____.

ANSWER: biodiversity
Biological diversity

REFERENCES: 2.3 Biodiversity

LEARNING OBJECTIVES: FWRG.HOBB.17.2.3 - Identify the natural areas most threatened by human activity and explain how natural habitat loss may endanger human welfare

KEYWORDS: Bloom's: Remember

54. The _____ includes both oceans and freshwater sources, such as lakes and rivers.

ANSWER: hydrosphere

REFERENCES: 2.4 The World's Oceans

LEARNING OBJECTIVES: FWRG.HOBB.17.2.4 - Appreciate the important roles of the world's oceans

KEYWORDS: Bloom's: Remember

55. The cultivation of aquatic organisms for food, including fish farming, that has the potential to increasingly substitute for wild-caught fish stock is called _____.

ANSWER: aquaculture

REFERENCES: 2.4 The World's Oceans

LEARNING OBJECTIVES: FWRG.HOBB.17.2.4 - Appreciate the important roles of the world's oceans

KEYWORDS: Bloom's: Remember

Matching

Climate change and market-based incentives to reduce emissions - match the terms below to their descriptions below

- a. Clean development mechanism
- b. Joint implementation
- c. Cap and trade
- d. adaptation
- e. mitigation

REFERENCES: 2.5 Global Climate Change

Chapter 02 - Physical Processes and World Regions

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

56. This allows an Annex I country to earn emission reduction units (ERUs) by investing in emission reduction in another Annex I country.

ANSWER: b

57. This allows a wealthier Annex I country can earn emissions units by investing in emission-reduction projects in a poorer country, and use those certified emission reduction (CER) credits to meet part of its overall emission reduction target.

ANSWER: a

58. Measures that aim to avoid the adverse impacts of climate change in the long term and is seen as a problem that the world's richer countries plus China should deal with because they are the main producers of greenhouse gases

ANSWER: e

59. Measures that are designed to cope with and reduce the unavoidable impacts of climate change in the short and medium terms and is typically seen as a problem for the poorer countries, which are expected to suffer the most from climate change.

ANSWER: d

60. A mechanism that lets countries that have an excess of emission units (emissions permitted to them, but not used) to sell this excess capacity to countries that are over their targets.

ANSWER: c

Climate Zones - match the following terms to their descriptions below

a. desert

b. oceanic

c. subarctic

d. humid subtropical

e. humid continental

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

61. Experiences short, mild summers and long, cold, severe winters and low annual precipitation

ANSWER: c

62. Is mild year-round, with temperatures and precipitation roughly equal in each season. Much of Europe has this climate.

ANSWER: b

63. Receives year-round precipitation and has large temperature swings between its cold winters and the often muggy hot summers.

ANSWER: e

64. Receives abundant precipitation, spread roughly evenly throughout the year, and features hot and muggy summers,

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and mild winters with occasional cold snap.

ANSWER: d

65. Is very dry year-round, with low annual precipitation

ANSWER: a

Subjective Short Answer

66. Earth can be divided into four different spheres. List these spheres and give a description of each.

ANSWER: Lithosphere - the surface of Earth, including rocks, soil, and plates
Atmosphere - gases and air surrounding Earth
Biosphere - all living organisms on Earth
Hydrosphere - water (in all forms) on Earth

REFERENCES: 2.1 Geologic Processes and Landforms

LEARNING OBJECTIVES: FWRG.HOBB.17.2.1 - Understand the tectonic forces behind some of the world's major landforms and natural hazards

KEYWORDS: Bloom's: Remember

67. Explain the difference between climate and weather.

ANSWER: As you experience a warm, dry, cloudless summer day or a cold, wet, overcast winter day, you are encountering weather—the atmospheric conditions occurring at a given time and place. Climate is the average weather of a place over a long time period.

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

68. How are the tropical rainfall, tropical monsoon, and tropical savanna climates similar and different?

ANSWER: Three climates are designated “tropical,” with their defining characteristic being consistent warm to hot temperatures; every month has an average temperature of 18°C (64°F) or higher. All three tropical climates are found in the Amazon basin of South America, in the following sequence poleward from the equator. The tropical rainforest climate is hot, humid, and rainy year-round, with little seasonal variation in temperature or precipitation. The tropical monsoon climate has a short dry season, when the otherwise heavy rains taper off for one or more months. The tropical savanna climate (also called the tropical wet-dry climate) has marked wet and dry seasons, typically lasting roughly half the year. The savanna's extended dry season results in lower annual precipitation amounts than the other tropical climates.

REFERENCES: 2.2 Patterns of Climate and Vegetation

LEARNING OBJECTIVES: FWRG.HOBB.17.2.2 - Recognize consistent global patterns in the distribution of vegetation types and climate

KEYWORDS: Bloom's: Remember

69. What is a monoculture, and what are the advantages and disadvantages of monoculture agriculture?

ANSWER: In our agricultural systems, the trend in recent decades has been to use biotechnology to develop genetically modified high-yield varieties of grains and to plant them as vast monocultures (single-crop plantings). This trend, which is the cornerstone of the so-called Green Revolution, is controversial. On the one hand, it puts more food on the global table. But on the other, it may render agriculture more vulnerable to pests and diseases and thus pose long-term risks of famine. In evolutionary terms, the Green Revolution has reduced the

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natural diversity of crop varieties that allows nature and farmer to turn to alternatives when adversity strikes. At the same time, while we remove tropical rain forests and other natural ecosystems to provide ourselves with timber, agriculture, and living space, we may be eliminating the foods, medicines, and raw materials of tomorrow even before we have collected them and assigned them scientific names. “We are causing the death of birth,” lamented biologist Norman Myers.

REFERENCES:

2.3 Biodiversity

LEARNING OBJECTIVES: FWRG.HOBB.17.2.3 - Identify the natural areas most threatened by human activity and explain how natural habitat loss may endanger human welfare

KEYWORDS:

Bloom’s: Remember

70. How do the oceans provide energy and other raw materials for human use?

ANSWER:

There are conventional fuel sources such as petroleum under the ocean floor. Meanwhile, there is enormous potential to capture unconventional energy supplies from the sea, especially by using the power of surface winds and waves and of rising and falling tides to generate electricity. Europeans are leading the way in using these forms of energy. Prospects are increasing for the deep-sea mining of other minerals, including gold, silver, and the copper, cobalt, nickel, and “rare earth” minerals (many of which are used in high-tech devices) held within manganese nodules strewn across much of the world’s seafloor.

REFERENCES:

2.4 The World’s Oceans

LEARNING OBJECTIVES: FWRG.HOBB.17.2.4 - Appreciate the important roles of the world’s oceans

KEYWORDS:

Bloom’s: Remember

71. The greenhouse effect is a natural mechanism that keeps Earth warm enough to sustain life. Describe how it works.

ANSWER:

This term is a metaphor of Earth’s atmosphere acting like the transparent glass cover of a greenhouse. Visible sunlight passes through the glass to strike the planet’s surface. Oceans and land, like the floor of the greenhouse or the car’s upholstery, reflect the incoming solar energy back as heat (invisible infrared radiation). Acting like the greenhouse glass or car windshield, Earth’s atmosphere traps some of that heat.

REFERENCES:

2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS:

Bloom’s: Remember

72. What is a biodiversity hotspot, and in which climate types and biomes do many of Earth’s 35 biodiversity hotspots exist?

ANSWER:

Places on Earth that are both biologically rich and deeply threatened by human activities are known as biodiversity hotspots, which scientists believe deserve immediate attention for study and conservation.

Most of these hotspots are in tropical and subtropical areas. The highest biodiversity in the world is found in the tropical and subtropical moist broadleaf forest biome. The tropical rainforest climate is hot, humid, and rainy year- round, with little seasonal variation in temperature or precipitation.

REFERENCES:

2.3 Biodiversity

LEARNING OBJECTIVES: FWRG.HOBB.17.2.3 - Identify the natural areas most threatened by human activity and explain how natural habitat loss may endanger human welfare

KEYWORDS:

Bloom’s: Remember

73. List five effects that are occurring or predicted to occur as a consequence of global warming.

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ANSWER: Warmer climate overall, especially in polar regions, but a few areas will see cooler temperature
More precipitation
More pronounced drought
More evaporation
Shifting biomes
Rising sea levels
Geopolitical instability

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

74. Mitigation and adaptation are two approaches to confronting climate change. How do they differ? Give one example of each.

ANSWER: Mitigation measures aim to avoid the adverse impacts of climate change in the long term; these include steps like switching from coal to cleaner fossil fuels to produce electricity, replacing fossil fuels with other energy resources, reducing energy consumption, and removing greenhouse gases from the atmosphere by boosting photosynthesis (for example, by planting more trees, which absorb carbon dioxide in the photosynthetic process of producing plant tissue and oxygen).
Adaptation
measures are designed to cope with and reduce the unavoidable impacts of climate change in the short and medium terms; these include building sea walls and dikes to prevent flooding related to rising sea levels, relocating people from flood-prone areas to higher ground, and developing crop varieties that are more suited to expected changes in precipitation and temperature.

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember

75. Why did the United States refuse to ratify the Kyoto Protocol under both the Clinton and Bush administrations?

ANSWER: The United States signed but did not ratify the Kyoto Protocol during the Clinton Administration. Even then, partly because of the strength of the fossil fuel industry lobbies, the political will for ratification did not exist.
When President George W. Bush assumed office in 2001, he rejected the Kyoto Protocol outright. The Bush administration had two objections: the potentially high economic cost of implementing the treaty and the fact that China, along with all the world's less developed countries, was not required by the Kyoto Protocol to take any steps to reduce greenhouse gas emissions.

REFERENCES: 2.5 Global Climate Change

LEARNING OBJECTIVES: FWRG.HOBB.17.2.5 - Describe the potential impacts of global climate change and international efforts to prevent them

KEYWORDS: Bloom's: Remember