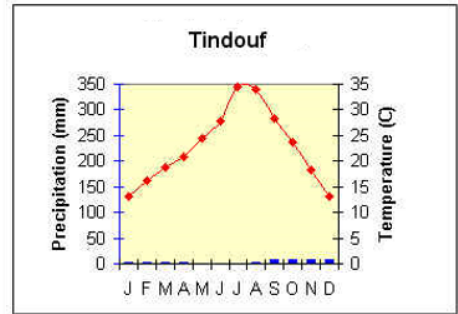
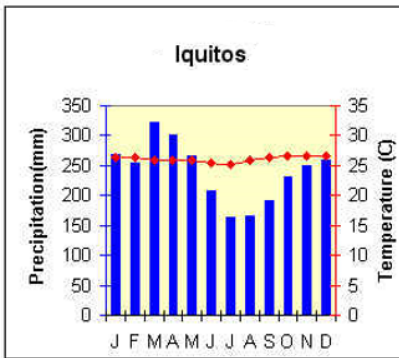
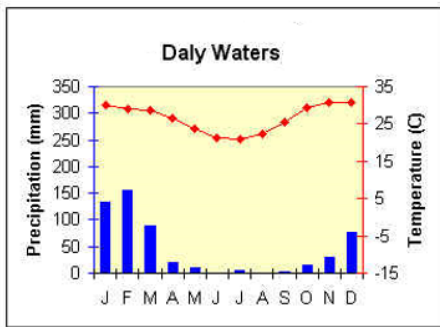


Environmental Science Exam 5 – Biomes

Conserve Paper – Don't Write on This Test!

1. What are the **two** most significant abiotic factors that influence what type of biome is found in a geographic area?
 - a. Wind speed and Average temperature.
 - b. Humidity level and Wind speed.
 - c. Average temperature and Average precipitation.
 - d. Average precipitation and Humidity level.
2. Which statement describes the relationship between latitude and temperature?
 - a. As latitude increases, temperature increases.
 - b. As latitude increases, temperature decreases.
 - c. There is no relationship between latitude and temperature.
3. What type of ecosystem would you be most likely to find at a latitude of 5°N?
 - a. A tropical rainforest.
 - b. A temperate grassland.
 - c. A polar desert.
 - d. A boreal forest or taiga.
4. What type of ecosystem would you be most likely to find at a latitude of 70°N?
 - a. A subtropical desert.
 - b. A tropical rainforest.
 - c. A boreal forest or taiga
 - d. A temperate grassland.
5. Which statement describes the relationship between altitude and temperature?
 - a. As altitude increases, temperature increases.
 - b. As altitude increases, temperature decreases.
 - c. There is no relationship between latitude and altitude.
6. The map of the United States to the right shows the location of the two rain forest ecosystems. Which statement accurately identifies each?
 - a. The northwest has temperate rain forest, the southeast has tropical rain forest.
 - b. The northwest has tropical rain forest, the southeast has temperate rain forest.
 - c. Both rain forests are tropical.
 - d. Both rain forests are temperate.
7. What is the explanation for the presence of a rainforest in the Northwest, so far away from the equator?
 - a. The forest is on the windward side of the Olympic and Rocky mountains.
 - b. The forest is in the leeward side of the Olympic and Rocky mountains.
 - c. The forest has coastal effects of being near the Pacific Ocean.
 - d. Both A and C are correct.





Temperature Conversions

0°C = 32°F

10°C = 50°F

20°C = 68°F

30°C = 86°F

0°C = 104°F

8. Which ecosystem above experiences a distinct dry season and wet season?
 - a. Daly Waters
 - b. Iquitos
 - c. Tindouf
 - d. None of these.

9. Based on the climate graph shown, what type of biome is Iquitos?
 - a. Tropical grassland
 - b. Tropical rainforest
 - c. Deciduous forest
 - d. Tundra

10. Based on the climate data above, what type of biome is Tindouf?
 - a. Tropical grassland
 - b. Boreal forest
 - c. Subtropical desert
 - d. Polar desert

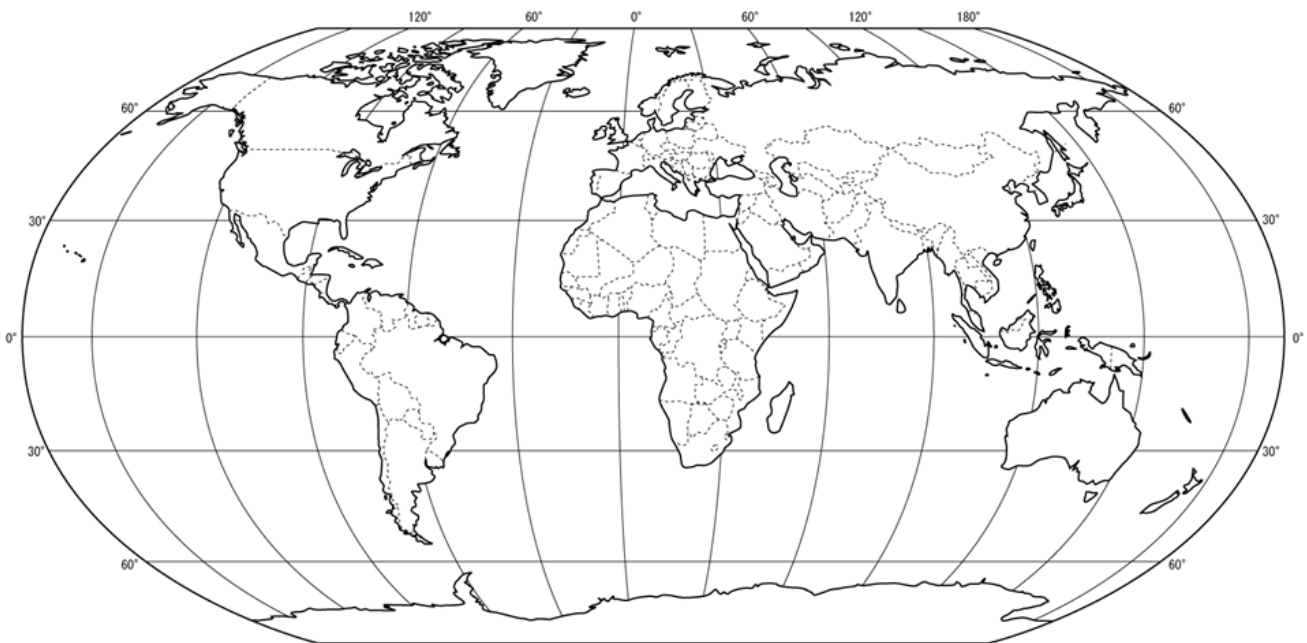
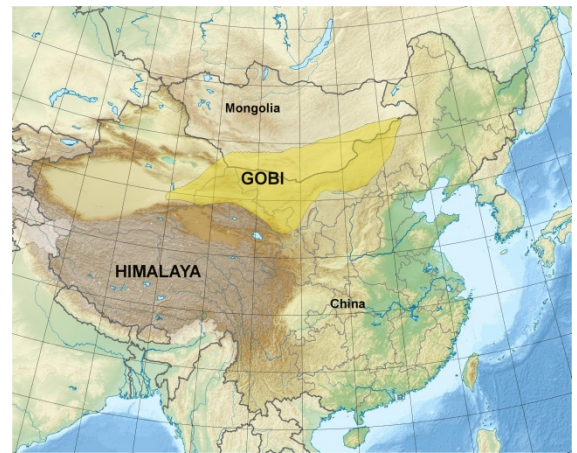
11. Given the temperature data shown, which of these ecosystems is definitely in the northern hemisphere?
 - a. Daly Waters
 - b. Iquitos
 - c. Tindouf
 - d. These are all in the southern hemisphere.

12. Which ecosystem is the most likely to be on or very close to the Equator?
 - a. Daly Waters
 - b. Iquitos
 - c. Tindouf
 - d. None of these is close to the equator.

13. Which ecosystem will experience a freezing winter, with precipitation in the form of snow or ice?
 - a. Daly Waters
 - b. Iquitos
 - c. Tindouf
 - d. None of these.

14. The Gobi desert is an example of a _____ desert, because it falls on the _____ side of the Himalayan mountains.

- a. Coastal, Leeward
- b. Rain shadow, Leeward
- c. Subtropical, Windward
- d. Temperate, Windward



15. Based on its geographic coordinates, which of these would be classified as a **coastal desert**?

- a. The Atacama, 25°S, 68°W
- b. The McMurdo Dry Valleys, 78°S, 162°E
- c. The Sahara, 23°N, 12°E
- d. The Great Sandy Desert, 20°S, 125°E

16. Which would be classified as a **polar desert**?

- a. The Atacama, 25°S, 65°W
- b. The McMurdo Dry Valleys, 78°S, 162°E
- c. The Sahara, 23°N, 12°E
- d. The Great Sandy Desert, 20°S, 125°E

17. What type of forest receives the least precipitation and thus has the least amount of life and diversity?

- a. Tropical rain forests.
- b. Temperate rain forests.
- c. Deciduous forests.

d. Boreal forests. (Taiga)

18. What type of forests has a majority of trees with leaves that look like this?

- a. Tropical rain forests.
- b. Boreal forests. (Taiga)
- c. Deciduous forests.
- d. All of these.



19. What is the advantage of trees having needle-shaped leaves?

- a. The leaves are more likely to be eaten by herbivores.
- b. The leaves lose water at a greater rate.
- c. Needle-shaped leaves do not need to be dropped every winter like broad leaves.
- d. Needle-shaped leaves have a greater surface for photosynthesis than broad, flat leaves.

20. Why are there so few trees in prairies, or temperate grasslands?

- a. There is not as much precipitation as in the forest biomes.
- b. The shifts in temperature from winter to summer are greater than in forest biomes.
- c. Prairies are subject to periodic fires. Trees cannot regenerate from fires like grasses can.
- d. All of the above.

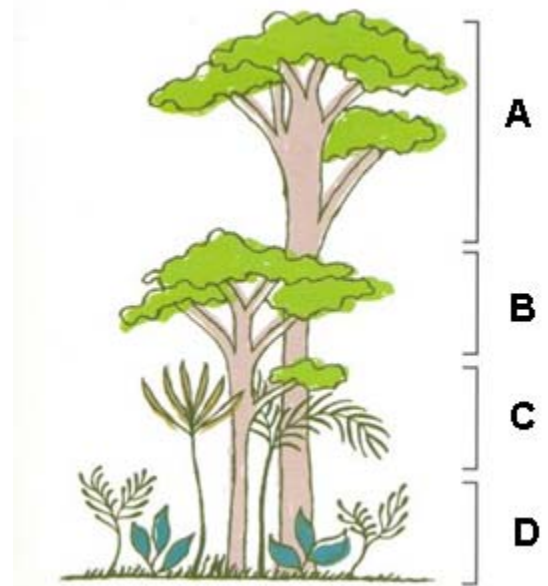
This diagram represents the different layers of a tropical rainforest ecosystem. Use each choice only once.

21. Which layer(s) would you expect to see a greater population of decomposers?

22. Which layer(s) would you expect to see most of the large mammals, like monkeys?

23. Which layer would have shorter plants with wider leaves (like ferns) to gather the 5-10% of sunlight that hasn't already been captured?

24. Which is the **emergent layer**?



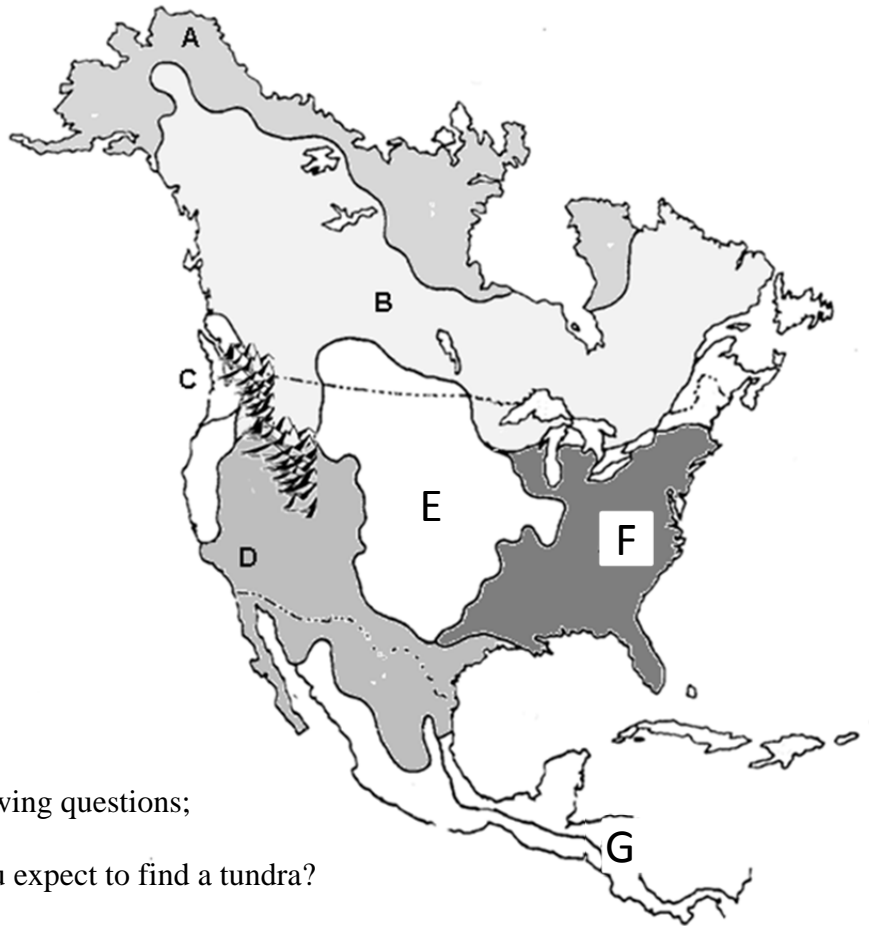
25. Which type of forest would you expect to see trees turning changing color from green to red, orange, and yellow during the fall?

- a. Deciduous Forest
- b. Tropical Rain Forest
- c. Boreal Forest
- d. This happens in all these forests.

26. Which of the following statements is true regarding **primary succession**?

- a. The soil is already present, so pioneer species grow very quickly.
- b. Happens after a disturbance to an ecosystem, such as a forest fire or flood.
- c. A climax community can be reached in only 150-200 years.
- d. This type of succession starts on new land, so it takes much longer to occur.

27. Which ecosystem would you expect to find the greatest amount of biomass and biodiversity?
- Temperate desert.
 - Tropical rainforest.
 - Boreal forest.
 - Polar grassland.



Use the Map to the right to answer the following questions;

28. Where on the map to the right would you expect to find a tundra?
29. If winds are coming in from the west, the rainshadow effect would produce a greater amount of precipitation for which area?
30. Where would you expect to find a boreal forest, or taiga?
31. Which ecosystem would have plants with extremely deep roots, rich topsoil, and regular fires?
32. Which ecosystem would you expect to see the trees with large, flat leaves that drop them every winter?
33. Which ecosystem would you expect to see broadleaf trees that do not shed their leaves?
34. Which ecosystem would you expect to have the warmest and most consistent temperatures?
35. Which ecosystem would have the shortest growing season, permafrost, and few if any trees?