Apes Review Questions #3

___1. Which of the following is the proper order from surface to center of the Earth?
    a. mantle, crust, outer core, inner core
    b. crust , outer core , inner core, mantle
    c. inner core, outer core, crust, mantle
    d. crust, mantle, outer core, inner core
    e. inner core, outer core, mantle, crust

___2. Which contains older rock?
    a. continental crust   b. oceanic crust   c. they are the same in age

___3. One tectonic plate may contain
    a. only oceanic crust
    b. only continental crust
    c. both continental and oceanic crust plus the upper mantle
    d. only one kind of crust and the asthenosphere
    e. crust, upper mantle and asthenosphere

___4. What happens at a subduction zone
    a. continental plate subducts under oceanic plate
    b. continental plate subducts under continental plate
    c. oceanic plate subducts under oceanic crust
    d. oceanic crust subducts under continental crust
    e. either c or d

___5. Which of the following is **not** commonly associated with tectonic plate boundaries?
    a. volcanoes   b. earthquakes   c. mid-ocean ridges   d. folded mountain chains
    e. very old rock

___6. What kind of rock is formed from weathering, erosion and deposition?
    a. igneous   b. metamorphic   c. sedimentary

___7. A mineral that a country uses but does not produce itself is called
    a. fossil fuel   b. strategic   c. reserve   d. non-fuel   e. metamorphic

___8. Put the following layers of the atmosphere in the proper order
    a. troposphere   mesosphere   stratosphere   thermosphere
    b. troposphere stratosphere mesosphere   thermosphere
    c. stratosphere   thermosphere troposphere   mesosphere
    d. troposphere   mesosphere   stratosphere   thermosphere
    e. stratosphere   thermosphere mesosphere   troposphere

___9. In which of the above layers does a layer of ozone protect us from UV rays?
    a. troposphere   b. thermosphere   c. mesosphere   d. stratosphere

___10. Which of the following best describes why there are rainforests at the tropics
        a. warm air rises, cools and condenses into rainclouds
        b. cold air sinks, bringing rain with it
        c. warm air is trapped under cold air, forming clouds
        d. rising cold air hits sinking cold air, resulting in high precipitation
        e. a high pressure system causes water vapor to condense into water droplets

___11. Where are you most likely to find deserts?
        a. at high pressure areas formed by sinking air
        b. at low pressure areas formed by rising air
        c. at high pressure areas formed by rising air
        d. at low pressure areas formed by sinking air

___12. At what latitude are deserts most likely to be found?
        a. 0°   b. 30° N or S   c. 60° N or S

___13. Which of the following was **not** a result of El Nino?
        a. less rain in Indonesia
        b. more rain in South America
        c. stronger equatorial winds blowing currents Westward
        d. less upwelling of nutrient-rich water off the coast of S.A.
        e. higher sea levels along the Western coasts of North and South America

___14. Which of the following is **not** a greenhouse gas?
        a. CFCs   b. carbon dioxide   c. methane   d. nitrous oxide   e. SO2

___15. Which of the following is **not** predicted to be an effect of global warming?
        a. higher sea level   b. stronger storms   c. droughts
        d. decreased rate of photosynthesis   e. migration of species towards the poles

___16. Which of the following correctly describes the cause and effect of the Coriolis effect
        a. cause: rotation of the earth   effect: deflection of winds into gyres
        b.. cause: changes in the Earth's orbit   effect: climate fluctuations
        c. cause: tilt of the earth's axis   effect: change of seasons
        d. cause: change in distance to sun   effect: change of seasons
        e. cause: presence of mountains   effect: location of deserts on leeward
                                              side of mountains

___17. Which of the following is **not** a result of photochemical reactions
        a. NO_2 b. particulates   c. PAN   d. VOC   e. ozone

___18. Which of the following substances is an indoor pollutant linked to lung cancer?
        a. PAN   b. O_3 c. freon   d. SO_2 e. radon

___19. Which of the following is least likely to be associated with air pollution?
        a. bronchitis   b. cataracts   c. emphysema   d. asthma   e. fibrosis

___20. Which of the following reactions is **not** a significant contributor of acid precipitation?
        a. H_2SO_4 b. HNO_3 c. HCl

___21. Where in the United States are you most likely to find acid deposition?
        a. Northeast   b. Southwest   c. Northwest   d. Southeast e. central

___22. Which of the following is **not** an effect of acid precipitation?
        a. spruce trees lose needles
        b. damage to limestone and marble buildings
        c. heavy metals leached out of the soil
        d. pH of mountain lakes increase dramatically
        e. many fish eggs dies

___23. What is best removed by electrostatic precipitators?
        a. particulates   b. CO   c. SO_2 d. limestone   e. hydrocarbons

___24. The east side of Mount Waialeale in Hawaii receives 20x the rain as the west side. What can you infer about Mount Waialeale?
        a. there is a large lake between the two sides
        b. trade winds blow from East to West across the mountain
        c. the west side is at a different latitude from the east side
        d. the Mountain is subjected to a strong Coriolis effect
        e. the mountain creates a high pressure system on the east side

___25. Which of the following is true of most aquifers today?
        a. recharge is slower than water withdrawal
        b. water table wells are becoming artesian wells
        c. the water table is rising
        d. the rate of infiltration is faster than in the past

___26. Which of the following is responsible for the greatest water use?
        a. agriculture   b. industry   c. domestic use

___27. Which of the following environmental problems is not related to groundwater depletion.
        a. saltwater intrusion   b. land subsidence   c. sinkholes   d. cone of depression
        e. siltation

___28. What is the effect of adding organic wastes to a river?
        a. increase of BOD and increase of DO
        b. decrease of BOD and increase of DO
        c. decrease of BOD and decrease of DO
        d. increase of BOD and decrease of DO

___29. Eutrophication in a marine ecosystem can cause an increase of toxic dinoflagellates called
        a. red tide   b. El Nino   c. oligotrophic   d. Minamata disease   e. turbidity

___29. How would a thermal plume affect the DO of an aquatic ecosystem?
        a. DO would increase   b. DO would decrease

___30. Which of the following has caused the greatest health risk to humans
        a. human and animal wastes in water
        b. pesticides
        c. air pollution
        d. second-hand smoke
        e. radioactive wastes

___31. Which of the following is likely to be found in sludge?
        a. lead   b. cadmium   c. nitrates   d. phosphates
        e. all of the above

___32. What is the purpose of secondary sewage treatment?
        a. to remove all plant nutrients
        b. to allow anaerobic microorganisms to decompose sludge
        c. to allow aerobic microorganisms to decompose organic matter
        d. to remove all heavy metals
        e. to physically remove grit

___33. Which of the following is **not** an oxygen-demanding waste?
        a. animal manure   b. dead algae   c. dead fish
        d. human sewage   e. mercury

Questions:

1. Draw and explain the formation of an atmospheric temperature inversion.