Name _____ Block _____ Desk # _____

BACTERIA AND VIRUSES

Identifying Bacteria:

1. What are prokaryotes? They are _____-celled organisms with no

   _____ - bound organelles.

2. True or false: prokaryotes are much larger that eukaryotes. _____

3. What are the two groups of prokaryotes: _____ & _____

4. What group is the largest of the two? _____

5. Where can eubacteria live? _____

6. Circle the letter of what is under the cell wall in a prokaryote:

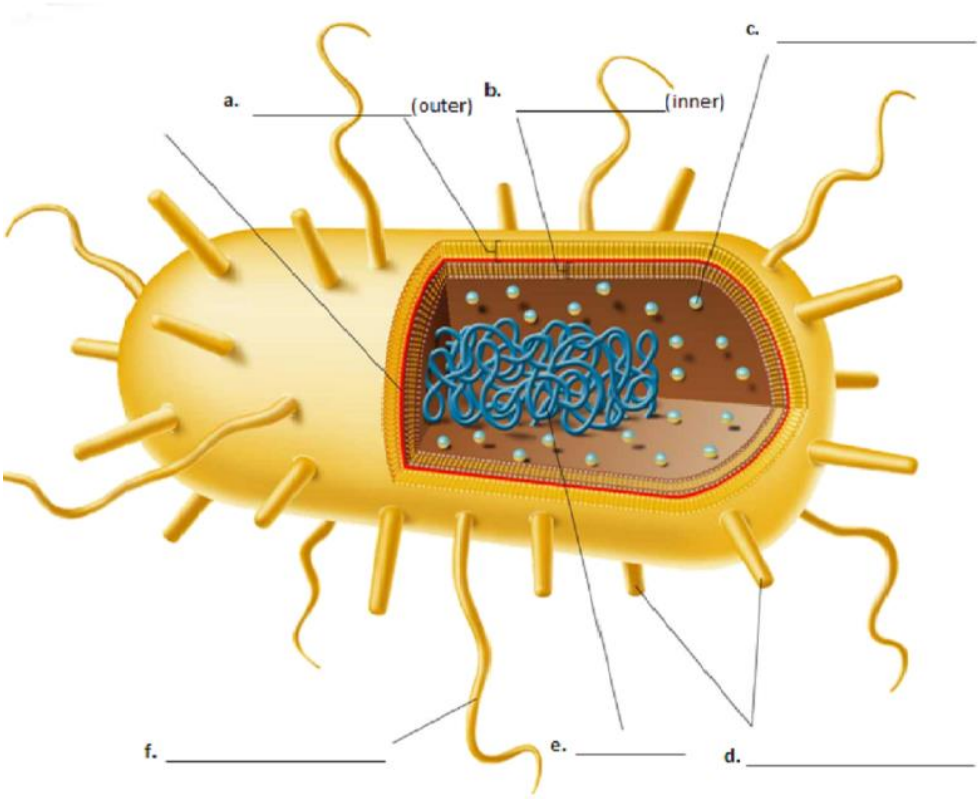
   a. another cell wall
   b. cell membrane
   c. archaebacteria
   d. cilia

7. What is peptidoglycan? It is the main component of a _____ in eubacteria.

8. Circle the letter of each sentence that is true about archaebacteria:

   a. Their membrane lipids are different from those of eubacteria.
   b. They don't have a cell wall.
   c. They don't have peptidoglycan
   d. They look very similar to eubacteria

9. In the following diagram, LABEL the indicated parts of a typical prokaryote:



10. What are each of the differently shaped prokaryotes called?

    a. The rod-shaped are called _____

    b. The sphere-shaped are called _____

        in a chain _____

        in a cluster _____

    c. The corkscrew-shaped are called _____

11. What protects a prokaryotic cell from injury or harm? _____

12. A way to identify bacteria's cell wall using dyes is called _____

13. Some bacteria have a second, outer cell _____

14. What color are

    a. gram negative bacteria _____

    b. gram positive bacteria _____

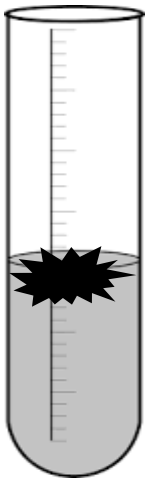
15. _____ are long, whip-like tails used to propel bacteria.

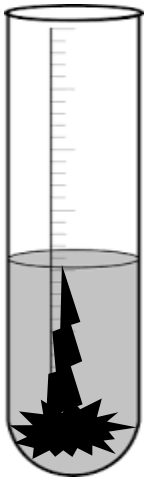
16. True or false: Most bacteria don't move at all. _____

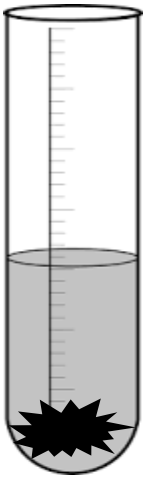
17. Finish the following table:

Group	**Description**
_____	Organism that carries out photosynthesis like plants
Chemoautotroph	Uses energy from _____ molecules
_____	Organism that breaks down organic molecules
Photoheterotroph	Organism that does _____ but still needs nutrients from the _____

18. Identify the following kinds of bacteria based on where they grow, showing their oxygen requirements:







a. Obligate _____ b. _____ anaerobe c. Obligate _____

19. Which bacteria in #18 above, does cellular respiration

    Circle your answer (all that apply): a. b. c.

20. _____ is how bacteria exchange DNA through a hollow tube.

21. When conditions are bad, some bacteria can form an _____ which protect its _____ until conditions are favorable to grow again.

Bacteria in Nature:

22. Plants and animals need nitrogen to make _____ for protein.

23. What is nitrogen fixation? When bacteria change _____ into a _____ form.

24. What kind of symbiotic relationship do many plants have with nitrogen fixing bacteria?

_____

24. Pathogens are bacteria that cause _____.

25. What percent of bacterial species actually cause disease? _____

26. What are the two ways bacteria can cause disease?

a. make _____ b. tissue _____

27. What kind of **tissue** is affected with *M. tuberculosis*? _____

28. What are most kinds of food poisonings caused by? Bacteria making _____

29. What **toxin** is the most deadly biotoxin? _____

30. Robert Koch tried to support the germ theory with his Postulates. He isolated bacteria from a cow with anthrax, then injected the bacteria into a healthy mouse. According to Koch's Postulates, what must have happened to the healthy mouse? (Circle your answer)

a. It became sick

b. It spread smallpox

c. It produced antibiotics

d. It became immune to viral infections.

31. True or false? Antibiotics kill bacteria. _____

32. What are two treatments that can be used to sterilize? _____ and _____ like disinfectants and preservatives.

Viruses:

33. What is a virus? It is an _____ parasite that must infect a host to be able to _____.

34. True or false? Most viruses are so small, that they can be seen only with an electron microscope. _____

35. Circle the letter of what a virus' protein coat is called.

    a. capsid
    b. envelope
    c. head
    d. lysis

36. Circle the letter of what a typical virus core is made of

    a. capsids
    b. surface proteins
    c. membrane envelopes
    d. DNA or RNA

37. Circle the letter of each sentence that is true about a ***lysogenic*** infection.

    a. The virus lyses the host cell immediately.
    b. The virus inserts its DNA into the host's DNA.
    c. The virus' DNA is copied along with the host cell's DNA.
    d. A host cell makes copies of the virus forever.

38. Complete the following flow chart about a ***lytic*** infection:

    a. The virus attaches to the host _____

    b. The virus injects its _____ into the cell.

    c. The cell makes virus parts using the virus' _____.

    d. The host puts together _____ particles.

    e. The host cell _____ immediately, releasing lots of viruses.

39. A _____ is what viral DNA is called once it has become part of the host's DNA

40. What are at least 2 diseases caused by a virus. _____

_____

41. What is a vaccine? It is weakened bacteria or viruses (or _____ of them) that act like an _____ which is something that gets to body to make _____

42. Viruses that can cause cancer are called _____ viruses.

43. Circle what a retrovirus has what in its core:

    a. capsid
    c. RNA
    b. DNA
    d. protein

44. Reverse transcriptase is an _____ used by retroviruses to make _____ from _____

45. Circle what an infectious protein is called:

    a. virus
    c. bacteria
    b. anion
    d. prion