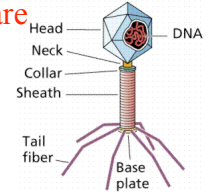


Bacteria and Viruses Test Review Ch. 19

Key Concepts:

1. Be able to identify producers and consumers from a food chain.
 - a. Remember a producers is a photoautotroph like a plant and consumers are heterotrophs which obtain energy by eating other organisms
2. Be able to label the structures and give the functions of parts of a virus.
 - a. Head is composed a protein coat for protection, and houses the DNA
 - b. Tail Fiber is structure used for attachment to host cell
 - c. Base plate which is the site of DNA injection is common between all viruses
3. Be able to read graphs and apply information from charts and graphs.
4. Be able to use methods of binomial nomenclature and classification.
 - a. Review: genus is first name and capitalized; species is second and lowercase
 - b. Both are italicized or underlined
5. How are bacteria classified?
 - a. Type of Cell wall (Gram – PINK or Gram + PURPLE), size, shape, how they obtain energy, how they move
6. How are eubacteria and archeobacteria different?
 - a. Differ by the composition of their cell wall
 - b. Eubacteria are recent bacteria
 - c. Archeobacteria are ancient bacteria, known as extremeists
7. How are prokaryotes identified?
 - a. Type of Cell wall (Gram – PINK or Gram + PURPLE), size, shape, how they obtain energy, how they move
8. How are viral diseases treated and prevented?
 - a. Vaccines can prevent, but not treated with antibiotics
9. How do humans use bacteria?
 - a. Medicine, flavoring of foods, oil spill clean-up, digestion, cycling of nutrients in soil
10. How do viruses reproduce?
 - a. Lytic Cycle:
 - i. a virus invades a host cell and takes control
 - ii. begins to replicate immediately producing many new viruses
 - iii. Host cell lyses (breaks apart), releasing the newly made viruses
 - iv. New viruses may then enter other cells and repeat the cycle.
11. How is cholera transmitted?
 - a. Contaminated water
12. How is HIV transmitted?
 - a. Blood to blood contact, such as: sexual contact, sharing non-sterile needles, and infants during pregnancy or breast milk
13. How was the bubonic plague spread?
 - a. Fleas on rats
14. Know characteristics of cells in Kingdom Animalia.
 - a. Multicelled, heterotrophs, eukaryotic cell



15. Review types of symbiosis: parasitism, mutualism, commensalisms.
 - a. Symbiosis means “living together”...an interaction between two individuals
 - b. Here are the forms:
 - i. Mutualism- both species benefit
 - ii. Commensalism- one benefits the other is unharmed
 - iii. Predation- the interaction in which one organism captures and feeds on another organism.
 - iv. Parasitism- one organism lives on or in another and harms it
16. What are bacterial endospores and what do they allow for?
 - a. protects the cell against harsh environmental conditions, such as heat and drought.
May allow the bacterium to survive for thousands of years.
17. What are disinfectants used for?
 - a. To kill bacterial cells which may lead to infection or disease
18. What are pilli? What common bacterium has pilli?
 - a. Small projections used for attaching to surfaces and/or special structure used for sexual reproduction.
19. What are some differences between eukaryotes and prokaryotes?
 - a. Eukaryotes have a nucleus and membrane-bound organelles, more advanced, found in multi-celled organisms
 - b. Prokaryotes lack a nucleus and make-up single-celled organisms
20. What are the characteristics of the tobacco mosaic virus?
 - a. Able to be crystallized, cause disease in tobacco, and smaller than bacterium
21. What are the chromosomes of bacteria like?
 - a. Loops of single-stranded DNA, not linear like eukaryotic DNA
22. What are the parts of the lytic cycle?
 - a. DNA injection, viral replication, and cell destruction
23. What are viroids composed of?
 - a. Strands of RNA
24. What cell parts do viruses have? Not have?
 - a. Capsid (protein coat) surrounding DNA...they do have ribosomes, nucleus, Mitochondria, cytoplasm, chloroplasts, etc... They are NONLIVING
25. What did Alexander Fleming discover?
 - a. A bacteriologists who discovered penicillin
26. What do antibiotics attack?
 - a. antibiotic disrupt the membrane of bacterial cells or inhibit bacterial growth through keeping bacterial cells from making proteins and acids that they need for survival and reproduction.
27. What do antibiotics do? Give a few common examples of antibiotics
 - a. May prevent bacteria from making new cell wall, treatments for bacterial diseases
 - b. Examples are: penicillin, tetracycline, streptomycin
28. What do bacteria need to grow?
 - a. Moisture, nutrients, and proper temperature
29. What do bacteriophages infect?
 - a. Viruses that infect bacteria
30. What do nitrogen fixing bacteria do?

- a. Convert atmospheric nitrogen into ammonia/nitrates
31. What do viruses attack?
- a. Living host cell
32. What do viruses contain?
- a. A protein coat and a nucleic acid core
33. What does a bacillus shaped prokaryote look like?
- a. rod
34. What does a coccus shaped prokaryote look like?
- a. round
35. What does a spirillum shaped prokaryote look like?
- a. spiral
- ~~36. What does a stomata do and where is it located on a cross-section of a leaf?~~
37. What is a capsid?
- a. Outer protein coat
38. What is a pathogen?
- a. A disease causing organism or agent
39. What is a symptom of transmissible spongiform encephalopathy (TSE)?
- a. Degeneration of brain and nervous system
40. What is an example of an infection caused by a prion?
- a. Mad cow disease
41. What is conjugation?
- a. Exchange of bacterial DNA (genetic material)
42. What is the difference between gram+ and gram- bacteria? Why is that important? What colors do they turn?
- a. Gram + have a thick peptidoglycan layer outside cell wall
 - b. Gram – thin peptidoglycan layer between cell wall and cell membrane
 - c. This aids in the identification process
 - d. Gram + stain PURPLE Gram – stains PINK
43. What is the difference between lytic and lysogenic viruses?
- a. Lytic cycle is when viruses are actively replicating, causing the cell to lyse (ruptures to release new viruses) ACTIVE STAGE
 - b. Lysogenic does not have a lyses stage!
44. What makes endangered species in danger of extinction?
- a. Loss of habitat via deforestation
45. What nutrient cycle is bacteria an important part of?
- a. Nitrogen Cycle
46. What organelles are in E. coli, bacteria, and eukaryotes?
- a. Since E.Coli and bacteria prokaryotic cell type they lack organelles.
47. What part of DNA determines the traits of an organism?
- a. exon
48. What results from deforestation?
- a. Causing species to be endangered or even extinct
 - b. Releases CO₂ that contributes to global warming
49. What surrounds a bacterial cell?
- a. Capsule & Slime layer – protect the cell & assist in attaching the cell to other surfaces.

50. ~~What would condensation look like in a picture of the water cycle?~~
51. When can bacteria be classified as decomposers?
 - a. if they break down the nutrients of dead matter into simpler forms
52. Where does the energy in producers come from?
 - a. A majority comes from the sunlight, however, a portion enters an ecosystem through chemosynthetic bacteria
53. Where does transpiration occur?
 - a. Through the stomata on plant leaves
54. Why can bacteria that cause botulism survive in canned food for a long time?
 - a. They may have formed endospores, which can survive for thousands of years
55. Why is it important to have clean, properly stored lab equipment?
 - a. Prevent contamination for future labs
56. Why is ozone important?
 - a. Absorbs harmful UV radiation
57. Why should you waft a chemical instead of smelling it directly?
 - a. The chemical could produce toxic vapor