

## Answers to first practice exam....

1. a. ATP
2. b. CO<sub>2</sub>
3. d. all of the above
4. a. reduced / oxidized
5. d. O<sub>2</sub>
6. b. chemoheterotroph
7. e. a and c
8. b. F
9. a. equivalent to the doubling time of a population
10. c. NADH and ATP
11. c. Nitrification
  
12. Draw an e<sup>-</sup> transport chain (in a membrane) with NADH donating electrons to it, and the final e<sup>-</sup> acceptor being O<sub>2</sub> for aerobic respiration and NO<sub>3</sub><sup>-</sup> for anaerobic respiration..
  
13. C. 2 hours
  
14. C. 1.6 x 10<sup>8</sup> cells
  
15. b. certain stains are preferentially taken up by microbes
  
16. d. Koch - 30 x magnification
  
17. b. rotating polar flagella that wrap around the organism and cause the organisms to rotate.
  
18. d. CO<sub>2</sub> + 2H<sub>2</sub>A ----> CH<sub>2</sub>O + H<sub>2</sub>O + 2A
  
18. a. to tell up from down and to swim downward.
  
19. Which of the following pairs is NOT properly matched?
  - a. Gram - / teichoic acids
  
20. e. CH<sub>3</sub>COOH ----> CH<sub>4</sub> + CO<sub>2</sub>
  
21. a. streptococci are chains of round cells and streptomycetes are filamentous
  
28. It tumbles less often and makes slightly longer runs
  
29. Because their outer membrane is dissolved by the solvents and because they have a very thin peptidoglycan layer
  
30. run out of a limiting nutrient or because of a build up of toxic metabolic waste products like ethanol or various acids...
  
31. Basically a simple cartoon drawing (with clear labels) will work. Be sure to show that the transport protein is in the plasma membrane.... Where would a porin be located?