

Medical Interventions – Lesson 1.1 Study Guide

1. Where is DNA located in a eukaryotic cell?
2. What is the correct bond-pairing of the bases in a **DNA** molecule?
3. What is the correct bond-pairing of the bases in a **RNA** molecule?
4. What is a primer? What enzymes are responsible for creating primers in DNA replication?
5. Define bioinformatics.
6. Define a medical intervention.
7. List 5 examples of medical interventions you learned in this unit.
8. Define pathogen. What are 3 categories of pathogens?
9. Define antigen.
10. Define antibody. Draw a diagram and label: heavy chain, light chain, antigen binding site, constant region, variable region)
11. Describe the relationship between antigens (pathogens) and antibodies.
12. Describe the process of DNA Replication – beginning with the DNA template strands and ending with the production of a completed copy. List all enzymes involved!
13. List & Explain the steps of PCR.

14. What is the Sanger Method?
15. What is unique about ddNTP's (or didNTP's)?
16. What does ELISA stand for?
17. What is the qualitative data that an ELISA test can provide? (Be more specific than a color change. What does it indicate?)
18. What is the quantitative data that an ELISA test can provide?
19. What does the quantitative data help to determine during an outbreak?
20. What is the secondary antibody used in an ELISA test conjugated with?
21. What is the reaction that occurs when the enzyme – substrate bond is formed during an ELISA? (what causes the color change?)
22. What is the purpose of the detergent wash buffer in an ELISA test?
23. What is the function of B cells? Are they the cell mediated or fluid mediated response?
24. What is the function of T cells? Are they the cell mediated or fluid mediated response?
25. Give an example of an over-the-counter ELISA test.
26. What, specifically, does the disease meningitis infect?
27. How is Neisseria Meningitidis spread? How did Sue possibly get or spread this disease?
28. During an outbreak, a sample of the patient's lymph fluid was extracted and processed to identify the DNA sequence. What was the next step we took to identify the pathogen?
29. What are the differences between DNA Replication & PCR?
30. You've encountered an antigen for the first time. Identify how the immune response works.