

Microbiology for Health Sciences

Chapter 7 Study Aid

Name: _____

PRINT AND HANDWRITE YOUR ANSWERS!

1. Define genetics.
2. Define genome.
3. Are prokaryotes haploid or diploid? How many chromosomes do prokaryotes have?
4. Where is the chromosome found in prokaryotes?
5. What are plasmids? What can they do?
6. Are eukaryotes haploid or diploid? Remember that eukaryotic cells have multiple linear chromosomes (# depends on species).
7. Where are chromosomes found in eukaryotes?

DNA Replication

8. The DNA strand is antiparallel. DNA replication happens in the _____ to _____ direction.
9. What do the following do in DNA replication:
 - a. Helicase:
 - b. Stabilizing proteins:
 - c. DNA polymerase:
 - d. Primase:
10. What is the difference between the leading strand and lagging strand in DNA replication?
11. What is genotype?
12. What is phenotype?

Transfer of Genetic Information – Transcription and Translation

13. Draw the Central Dogma of Molecular Biology:

14. What does RNA Polymerase do?

15. How many amino acids are there?

16. Where does transcription occur in prokaryotes? Where does it occur in eukaryotes?

17. Translation occurs on the _____.

18. What is the job of tRNA?

19. What is an operon?

20. Describe what happens with the lac operon?

21. What is mutation?

22. A mutation can lead to what result?

23. What 3 things can induce mutation in the DNA?

24. What is vertical gene transfer?

25. What is horizontal gene transfer?

a. In prokaryotes, what are the following:

i. Transformation:

ii. Transduction:

iii. Conjugation: