

AP Biology Chapter 18 Worksheet Part B

1. Explain what it means to say that bacteria are very adaptable.
2. What is the main component of the bacterial genome?
3. Explain the function of a nucleoid.
4. Explain what a plasmid is and what it consists of.
5. Explain how bacteria cells divide.
6. Are most bacteria in a colony clones? Explain
7. Can bacteria spontaneously mutate? Explain
8. Explain the relationship between reproductive rates in bacteria and their genetic diversity through mutations.
9. Contrast human genetic variation to bacterial generation.
10. Explain what is meant by genetic recombination with regard to bacterial populations.
11. Give the three ways recombination can occur in bacteria.
12. Explain what is meant by transformation.
13. Explain how a harmless streptococcus bacteria can be turned into a pneumonia causing one.
14. How is naked DNA taken up by a bacteria?
15. Explain how E. coli can be induced to take up small pieces of naked DNA.
16. Explain what is meant by transduction.
17. Explain generalized transduction.
18. Explain specialized transduction.
19. What do both generalized and specialized transduction have in common?
20. Explain what is meant by conjugation.
21. Explain what F factor is and what it does.
22. Explain what a plasmid is.
23. Explain what an episome is.
24. Are plasmids normally helpful or harmful?
25. Explain why plasmid genes are advantageous.
26. Explain the structure of an F factor plasmid.
27. Explain the difference between F⁺ and F⁻ plasmids.
28. Explain the function of the resulting Hfr cell.
29. Explain how the new recombined bacterial cell gets genes from 2 different cells.
30. Explain the function of R plasmids and their affect on a colony of bacteria.
31. Can R plasmids be transferred between cells? Explain
32. Explain what a transposon is and what it does.
33. Explain how this movement occurs.
34. Explain the target sites in bacteria.
35. Explain what function transposons perform for a bacteria.
36. Explain what a jumping genes is.
37. Explain what happens in replicative transposition.
38. Explain what is meant by an insertion sequence and what it consists of.
39. Explain the function of the transposase enzyme.
40. What is the function of DNA polymerase in this process? DNA ligase?
41. Can insertion sequences cause mutations? Explain