

Unit 4: Cellular Reproduction and Heredity

Study Guide

1. Define cellular growth
2. Why must our cells divide?
3. As a cell's size increases, how does this affect its volume to surface area ratio?
4. What is the cell cycle? What two general periods are present?
5. What are the phases of mitosis?
6. What is the longest phase of mitosis?
7. In what phase of mitosis do you see long, stringy chromatin coiling up into visible chromosomes?
8. What are sister chromatids?
9. When do you see breaking down of the spindle fibers?
10. How are gametes formed?
11. What is binary fission? What kind of organisms use this as their primary means of reproduction?
12. What are gametes?
13. What is a zygote?
14. What happens during the first growth phase of interphase?
15. What happens during the synthesis phase of interphase?
16. During what phase of mitosis does the nucleus begin to disappear and the nuclear membrane and nucleolus begin to disintegrate?
17. What phase of mitosis do you see formation of 2 new daughter cells?
18. What is cytokinesis?
19. What are somatic cells?
20. How many chromosomes do humans have?
21. What does homologous mean?
22. What does diploid mean?
23. What does haploid mean?
24. What are chromosomes?
25. In which mitotic phase do you see chromosomes lining up at the equator?
26. What is crossing over? When does it occur?
27. In what phase of mitosis do you see centromeres splitting apart?
28. What cells form a cell plate?
29. What is the end result of meiosis I? of meiosis II?
30. What is independent assortment?
31. Define heredity.
32. What is a gene?
33. What is an allele?
34. What does dominant mean? Recessive?
35. What is the law of independent assortment?
36. What is the law of segregation?
37. What does homozygous mean? Heterozygous?
38. What does genotype mean? Phenotype?
39. What is a monohybrid cross?
40. Be able to construct and read a Punnett square.
41. Know the difference between complete dominance, incomplete dominance, and codominance
42. How are pedigrees helpful?
43. What are autosomes? Sex chromosomes? Sex-linked traits?
44. What is a mutation?
45. What is nondisjunction?
46. What is gel electrophoresis?