

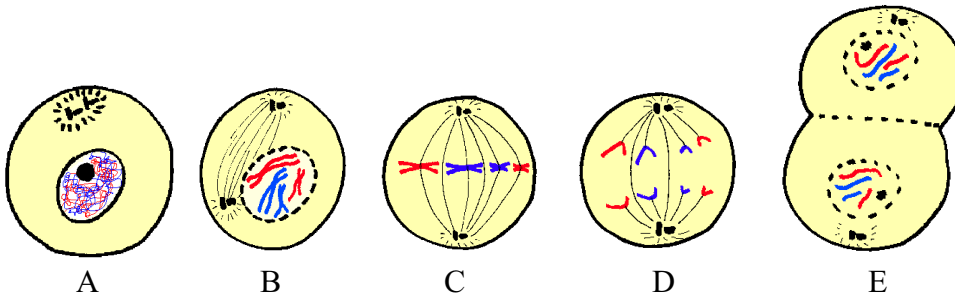
Biology Review: Cell Division

Instructions: *Answer the questions and you will do fine on tomorrow's test.*

1. List four reasons why cells divide.
2. What do we call uncoiled DNA and its associated proteins?
3. Uncoiled DNA can: (function or not function?) (move or not move?)
4. The stage of the cell cycle in which a cell spends the majority of its time is called?
5. Portion of the cell cycle in which chromosomes shorten and thicken is called?
6. When do chromosomes gather in the middle of the cell?
7. If a cell skips synthesis, then what would happen to its number of chromosomes?
8. In which portion of the cell cycle do the spindle fibers form?
9. If a human cell has 46 chromosomes in 1st gap, then how many chromosome will each of the daughter cells have after cytokinesis?
10. In which portion of the cell cycle does the cell double its size?
11. In which stage of the cell cycle do the sister chromatids separate and get pulled to the opposite ends of the cell?
12. If a human has 46 chromosome in 1st gap, then it will have how many chromosome at the end of S?
13. When do the centrioles migrate to the end of the cell?
14. Chromosomes uncoil and become chromatin in in which stage of the cell cycle?
15. Organelles are produced in which stage of the cell cycle?
16. In which stage of the cell cycle does the nuclear membrane and nucleolus disappear?
17. Mitotic division without cytokinesis, the result how many cells with how many nuclei?
18. How many strands of DNA make up a chromosome when it is in metaphase during mitosis?
19. In which stage of the cell cycle does the nuclear membrane and nucleolus reform?

20. How does plant cytokinesis occur?
21. What do chromosomes do in interphase?
22. What do chromosomes do in prophase?
23. What do chromosomes do in anaphase?
24. What do chromosomes do in metaphase?
25. What do chromosomes do in telophase?

Questions 26-30 refer to the diagrams below



26. Spindle fibers are forming
27. Cytokinesis is beginning to occur
28. The cell is in prophase
29. The sister chromatids are separated and moving to opposite ends of the cell
30. Many organelles are being produced
31. How many cell divisions occur in meiosis?
32. How many cells are formed during meiosis?
33. How does a daughter cell at the end of meiosis differ from its parent cell entering meiosis?
34. What does haploid mean?
35. Body cells that have two sets of chromosomes are called (haploid or diploid)
36. What are gametes?

37. What is the purpose of meiosis?
38. Chromatids that are attached at the centromere are called what kind of chromatids?
39. Which process is absolutely necessary for sexual reproduction to occur?
a) mitosis b) meiosis c) cytokinesis d) karyokinesis
40. Synapsis and crossing over occur in which stage of meiosis?
41. What does crossing over cause?
42. Meiosis typically results in the production of how many cells with how many chromosomes?
43. Which of the following is not true of human chromosomes
a) the haploid number is 23 b) the diploid number is 46
c) somatic cells have 23 pairs d) gametes contain two types of each chromosome
44. Which of the following cells is not haploid?
a) sperm b) polar body c) liver d) egg
45. How many eggs are produced in oogenesis?
46. How many sperm are produced in spermatogenesis?
47. Which type of cell division produces variation? (mitosis or meiosis)
48. What is a zygote?
49. Why do 3 polar bodies and one egg form during oogenesis?
50. How is meiosis in males and females similar?