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Chapter 10 Study Guide

10.1 Cell Growth, Division, and Reproduction

1. As the cell size increases what happens to the demands for information? _____
   _____
2. What determines the rate at which materials can get in and out of the cell? _____
   _____
3. What determines the rate at which materials are used and produced by the cell? _____
   _____
4. What happens to the surface to volume ratio as the cell increases in size? _____
   _____
5. What do cells do to remedy the cell getting too big? _____
   _____
6. What is cell division? _____
   _____
7. When a cell divides what does it do to the volume of the cell and how does that effect the surface area to volume ratio? __
   _____
   _____
8. What is asexual reproduction? _____
   _____
9. What is sexual reproduction? _____
   _____

10.2 The Process of Cell Division

10. What are chromosomes? _____
    _____
11. What is a plasmid? _____
    _____
12. What is chromatin? _____
    _____
13. What does chromatin wrap around? _____
14. What are nucleosomes? _____
    _____
15. What does a prokaryotic cell cycle consist of? _____
    _____
16. What are the four phases of a eukaryotic cell cycle? _____
    _____
17. What phases make up interphase? _____
    _____
18. What happens in interphase? _____
    _____
19. What phase happens during cell division? _____
    _____
20. What happens during the G1 phase? _____
    _____
21. What happens during the S phase? _____
    _____
22. What happens during the G2 phase? _____
    _____
23. What are the two parts of the M phase? _____
    _____
24. What happens in mitosis? _____
    _____

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25. What happens in cytokinesis? _____
_____
26. What are chromatids? _____
_____
27. What are centromeres? _____
28. What are centrioles? _____
_____
29. What are spindles? _____
_____
30. What happens in prophase? _____
_____
31. What happens in metaphase? _____
_____
32. What happens in anaphase? _____
_____
33. What happens in telophase/cytokinesis? _____
_____
34. Draw out the stages of mitosis.

35. How is cytokinesis in plants and animals different? _____
_____

10.3 Regulating the Cell Cycle

36. What are cyclins? _____
_____
37. What are internal regulators? _____
_____
38. What are external regulators? _____
_____
39. What are growth factors? _____
_____
40. What is apoptosis? _____
_____
41. What is cancer? _____
_____
42. What is a tumor? _____
_____
43. What are causes of cancer? _____
_____

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44. What are treatments for cancer? _____
_____

10.4 Cell Differentiation

45. What is differentiation? _____
_____
46. What does totipotent mean? _____
_____
47. What is a blastocyst? _____
_____
48. What are stem cells? _____
_____