**Chapter 10 and 11-4 Test Study Guide**

1. 3 reasons cell divide before they become too big
2. Description of cell division
   1. Why does cell have to copy DNA before dividing?
   2. How do the daughter cells compare to parent cells?
3. Describe chromosomes
   1. Know the parts of a chromosome
   2. What do they carry?
4. Describe chromatin
5. Cell cycle
   1. Be able to label the cell cycle
   2. Know what happens at each part of the cell cycle
      1. G1
      2. S
      3. G2
   3. Which happens the longest?
6. Interphase vs. mitosis
7. Mitosis (PMAT)
   1. Be able to give the correct order of mitosis
   2. Know what happens at each stage of mitosis
   3. Be able to recognize what the chromosomes look like at each phase (study your pictures)
   4. During what phases do chromosomes become visible?
   5. Which phase is the longest? Shortest?
   6. What do the spindle fibers do?
   7. What does a centriole look like?
   8. What kind of cells are made?
8. Cytokinesis
   1. Definition
   2. Plant vs. animal cytokinesis
9. Do all cells go through cell division at the same rate
10. What are cyclins?
    1. Internal vs. external regulators
11. When do cells grow? When do they not grow?
12. 3 ways cells lose control of the cell cycle
13. Definition of cancer
    1. Tumors
       1. What are they?
       2. What do they do?
    2. 2 main causes and examples of those causes
    3. Gene p53
       1. What is its job?
       2. What happens when it is damaged?
    4. How do you prevent cancer?
14. Definition of genes
15. What is metastasis?
    1. Is any area safe from cancer?
    2. What type of organisms get cancer?
16. Haploid vs. diploid
17. What symbol represents chromosome number?
18. Somatic vs. sex cells
19. What are homologous chromosomes?
20. Definition of meiosis
    1. How many divisions are there and what do we name them?
       1. What are the stages and what happens?
    2. What do the daughter cells look like?
    3. What does meiosis produce that mitosis does not?
    4. What kind of cells are made?
21. Types of gametes
    1. How many are made?
    2. What happens to the female cells?
22. Fertilization
23. What happens during prophase I?
24. What is a tetrad?
25. Be able to show what crossing over looks like
    1. What is crossing over?
    2. What does crossing-over provide?
26. Describe nondisjunction. What can result?
27. Make sure you know your mitosis vs. meiosis chart!
28. Asexual reproduction: know types and their descriptions
    1. Binary fission
    2. Budding
    3. Spore formation
    4. Vegetative propagation
    5. Regeneration
29. Sexual reproduction