Biology Unit 3 Test Review Topics

*The following is minimal list of topics that the student should have mastered.*

1. Describe what is happening on a cellular level during the following stages of mitosis:
   1. G1 phase
   2. S phase
   3. G2 phase
   4. Prophase
   5. Metaphase
   6. Anaphase
   7. Telophase
   8. Cytokinesis
2. Give two explanations as to why cells are so small
3. When taking a tissue sample of an organism most cells are in interphase, why is this?.
4. Describe in detail the cellular process that results in cancer and that is harmful to an organism.
5. What are homologous chromosomes?
6. Describe what is happening on a cellular level during the following stages of meiosis:
   1. Interphase
   2. Prophase I
   3. Metaphase I
   4. Anaphase I
   5. Telophase I
   6. Prophase II
   7. Metaphase II
   8. Anaphase II
   9. Telophase II
   10. Cytokinesis
7. Describe in your own words what a Gamete Cell is.
8. Describe in your own words what a haploid is, be sure to include chromosomes in this discussion..
9. Describe in your own words what a diploid is, be sure to include chromosomes in this discussion..
10. Describe in your own word why eukaryotic organisms:
    1. undergo meiosis.
    2. do not have an odd number of chromosomes.
11. Describe in detail why two brothers from the same mother and father can have different traits (I.e. eye color, hair color, body build, etc.)
12. Complete the following chart

|  |  |  |
| --- | --- | --- |
|  | Mitosis | Meiosis |
| Chromosome Number of Parent Cells |  |  |
| Number of DNA Replications |  |  |
| Number of Divisions |  |  |
| Number of Daughter Cells Produced |  |  |
| Chromosome Number of Daughter Cells |  |  |
| Purpose/Function |  |  |