**Questions to answer:**

1. What has to occur for a cell to divide?  What purposes do these divisions serve?
2. Why does the DNA condense into chromosomes during cell division?
3. Explain what happens during each of the following phases of the cell cycle in a typical eukaryotic cell:
   1. Interphase
      1. G1
      2. S
      3. G2
   2. Prophase
   3. Pro-Metaphase
   4. Metaphase
   5. Anaphase
   6. Telophase
   7. Cytokinesis
4. What is different about cytokinesis in animal-like cells as compared to plant-like cells?
5. If a cell has 12 pairs of chromosomes in G1 of interphase, how many chromosomes does it have during each of the following phases of the cell cycle?

G2

Metaphase

Immediately after cytokinesis.

1. Briefly discuss the evolutionary trend in mitosis shown in the protists.

**Things you should make sure you understand:**

**(feel free to ask questions about them in class)**

* The differences between prokaryotic, and eukaryotic cell division
* The following terms as relate to DNA structures:  chromosome, chromatid, centromere.
* How chromosomes migrate during cell division.
* The evolutionary trends in cell division, demonstrated by different members of the protist taxon.