**Questions to answer:**

1. Why does a multicellular organism need to control and coordinate cell division?  What might be the consequences of uncontrolled cell division in a multicellular organism?
2. What does it mean when we say that there are several “checkpoints” that occur during the cell cycle?
3. What are the “Questions” that a cell must “answer” during each of the following checkpoints:
4. G1/S checkpoint
5. G2 checkpoint
6. spindle checkpoint
7. Diagram the relationship between cdK, and cyclin.
8. Give an example of an external signal that regulates cell division and explain how it works.
9. Compare and contrast the functions of proto-oncogenes and tumor suppressor genes.  Give an example of each and explain why mutations in these genes can lead to cancer.

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

(feel free to ask questions about them in class)

* The different requirements for cell division in unicellular and multicellular organisms, along with different parts of a multicellular organism.
* The relationship between cancer and cell division.
* How cancer develops in an organism.
* How cancer is treated, and how those treatments affect cancer cells.