# What to Know
# Ch. 10 (Cell Growth and Division) and 11.4 (Meiosis)

**Ch. 10 – Cell Growth and Division**

1. Know the **vocabularies** on p. 244 and p. 250.
2. Explain why cells need to be small.
3. Describe the difference between **chromatin**, **homologous chromosomes** and **sister chromatids**.
4. Explain the difference between **haploid** and **diploid** cells.
5. Describe the **cell cycle** and the events of the cell cycle (**$G_1$**, **S**, **$G_2$**, **$G_0$, mitosis**, and **cytokinesis**).
6. Identify and describe and the events of **mitosis** (**interphase**, **prophase**, **metaphase**, **anaphase**, and **telophase**).
7. Explain how **cytokinesis** in animal cells is different than in plant cells.
8. Explain how cell division is controlled and regulated (contact inhibition, density-dependent inhibition, and cyclin).

**Section 11.4 – Meiosis**

9. Know the **vocabularies** on p. 275.
10. Explain the overall process of **meiosis** and why it is important.
11. Explain what occurs during **meiosis I**. (Hint: What line up at the equatorial plate?)
12. Explain **synapsis** and **crossing over** and why crossing over is an important part of meiosis I.
13. Explain what occurs during **meiosis II**. (Hint: What line up at the equatorial plate?)
14. Describe how meiosis generates **genetic diversity/variation**.
15. Describe the differences between mitosis and meiosis.
16. Explain the advantages/disadvantages of asexual reproduction (binary fission/mitosis) and sexual reproduction.
17. Define **gametes** and identify where they are made.
18. Define **polar bodies**. Compare **egg production** and **sperm production**.
19. Define **genetic recombination** and explain how it relates to meiosis.