**Cell Cycle, Mitosis, and Meiosis Review Guide**

**Test Date: 21 February 2012**

**Vocabulary**

Interphase

S Phase

M Phase

Mitosis

Prophase

Metaphase

Anaphase

Telophase

Cytokinesis

Meiosis

Crossing over

Independent Assortment

Nondisjunction

Trisomy

Prophase I

Metaphase I

Anaphase I

Telophase I

Prophase II

Metaphase II

Anaphase II

Telophase II

Haploid

Diploid

Replicated chromosome

Centromere

Chromatid

Homologous pair

Centriole

Spindle fibers

Metaphase plate

Cell plate

Gamete

Somatic cell

Spermatocyte

Oocyte

Alternation of generations

Sporophyte

Gametophyte

Asexual reproduction

Binary fission

Budding

Spore

Zygote

**You Need to Know/Be Able to…**

* Differentiate between interphase and M phase
* Know what happens during S phase
* Understand the structure of a replicated chromosome
* Draw the phases of mitosis
* Draw the phases of meiosis
* Explain why meiosis is called “reduction division”
* Complete “how many…” problems for both mitosis and meiosis
* Explain how variation is introduced into the gametes during meiosis
* Understand the purpose of mitosis and meiosis in the alternation of generations life cycle
* Differentiate between sexual and asexual reproduction
* Know the key difference between mitosis in an animal cell and mitosis in a plant cell
* Compare and contrast the features of mitosis and meiosis
* Contrast meiosis in males (spermatogenesis, sperm formation) with meiosis in females (oogenesis, formation of egg cells)
* Explain how nondisjunction can lead to trisomy