**Mitosis and Meiosis (20 Terms) Biology Keystone Vocabulary**

**Autosome –** chromosome that contains genes for characteristics not related to the sex of an organism

example: in humans pairs #1-22

**Binary Fission** – asexual reproduction where 1 cell divides into 2

**Cell Cycle** – series of events that take place in a cell leading to its division and duplication. Has 3 main phases:

interphase, nuclear division, and cytokinesis

**Centromere –** region of condensed chromosome where spindle fibers attach during mitosis and meiosis

**Chromosomes –** single piece of coiled DNA, contains genes that code for traits

**Chromatid** – one half of duplicated chromosome, joined at the centromere

**Crossing Over –** an exchange of genetic material between homologous chromosomes during anaphase 1 of

meiosis, causes genetic variability

**Cytokinesis –** final phase of cell cycle, where the cytoplasm divides

**Diploid -** cell with 2 copies of each chromosome, one from the egg and one from the sperm (represented by 2*n*)

example: in human body cells 2*n* = 46

**DNA replication** – process where DNA makes an identical copy of itself

**Gamete –** specialized cell (egg or sperm) used in sexual reproduction, has ½ the normal number of

chromosomes of a somatic cell

**Gene –** segment of DNA on a chromosome that is the blueprint for one hereditary trait

**Haploid –** cell that only has one copy of each chromosome, gametes are haploid (represented by *n*)

example: in human egg or sperm cell *n* = 23

**Homologous Chromosomes –** chromosomes with the same length and copies of genes, although the alleles may

be different Example: chromosome pair #1 – one from egg and 1 from sperm

**Interphase –** longest phase of the cell cycle, cell performs normal functions

**Meiosis –** 2 phases of nuclear division that result in the production of gametes

**Mitosis –** nuclear division, forms 2 somatic cells that are genetically identical to each other and the original cell

**Sex Chromosomes –** chromosome that contains genes for traits directly related to sexual characteristics

Example: in humans X and Y chromosome

**Somatic** – general term for any cell in the body except gametes, ex. blood cell, muscle cell, kidney cell

**Zygote –** cell formed when a sperm fertilizes and egg, has diploid number of chromosomes