3.2.1 - Meiosis Notes

Meiosis: the process in which chromosome number is halved to produce gametes (sex cells), so offspring have the same number of chromosomes as their parents

Purpose: to create genetically varied offspring!
Gametes: sex cells that come together to make a zygote (fertilized egg)

females
XX

Gametes:

Egg	Sperm
Females	Males

males
XY

Haploid vs. Diploid

Diploid (2N): all of your "somatic" cells aka: body cells; 46 chromosomes

double

Haploid cells (N): sperm & egg; 23 chromosomes (**think **ha**ploid means **half****)

half

Meiosis = 2 divisions = makes 4 cells haploid

haploid	diploid
n sperm egg	2n liver cell heart cell nerve cell muscle cell embryo zygote

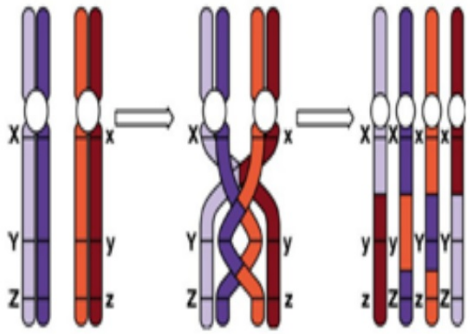
Classify the following as **haploid** or **diploid**.

- ❑ N
- ❑ 2n
- ❑ Sperm
- ❑ Egg
- ❑ Zygote (fertilized egg)
- ❑ Liver cell
- ❑ Heart cell
- ❑ Nerve cell
- ❑ Muscle cell
- ❑ Embryo

Crossing Over:

- Occurs during meiosis
- Portions of the genes on the chromosomes are exchanged
- Crossing over can cause genetic variation in species
- Mistakes can result from _____ (chromosomes do not separate correctly)

Crossing over during meiosis



After crossing-over as shown below, what would the sequence of genes be for each of the chromatids?