Ch 11-3 & 11-4:
-Beyond Simple Dominance
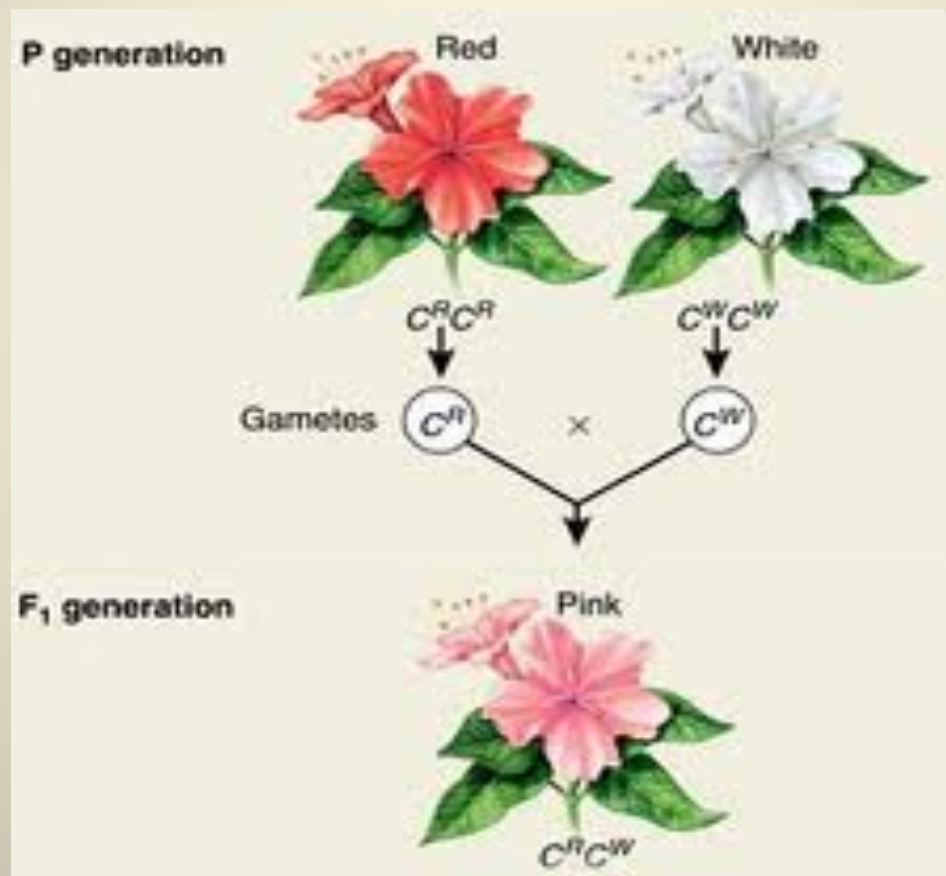## -Meiosis

Essential Questions:

- What are some inheritance patterns different from simple dominance?

- What happens during the process of *meiosis*?

- What are the differences between *meiosis* & *mitosis*?

■ Beyond Dominant and Recessive Alleles

- Incomplete Dominance

- Codominance

– Multiple Alleles

Example: Rabbits

- C = dark gray
- c^{ch} = chinchilla (light gray)
- c^h = himalayan (white with black points)
- c = white

- Dominance: $C > c^{ch} > c^h > c$

– Polygenic Traits

- Meiosis
  - Chromosome number
    - **Homologous**: corresponding to other parent's genes
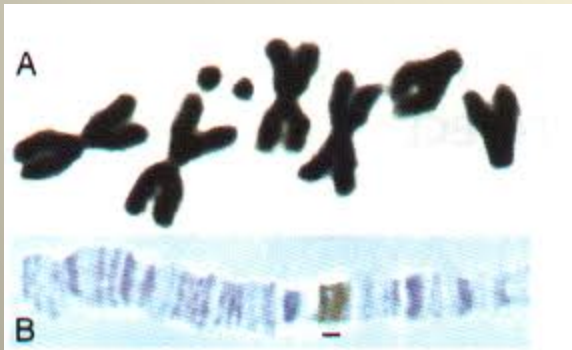   - **Ex: fruit fly: 8 chromosomes**
      - **4 from Mom, 4 from Dad**
      - **Diploid** = "2 sets" (2N)
        - **Fruit fly: 2N = 8**
      - Gametes are haploid ("one set")
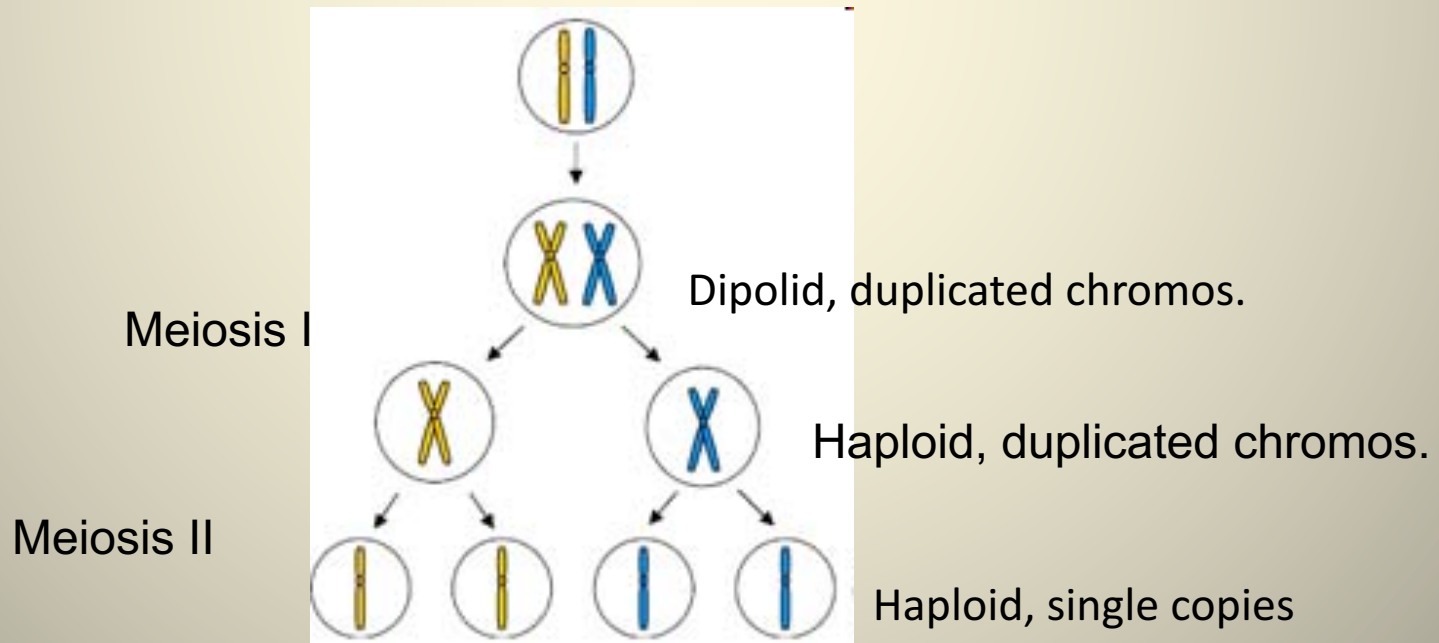   - **Fruit fly: N = 4**

- Phases of meiosis
  - Meiosis I separating *homologous chromos*.
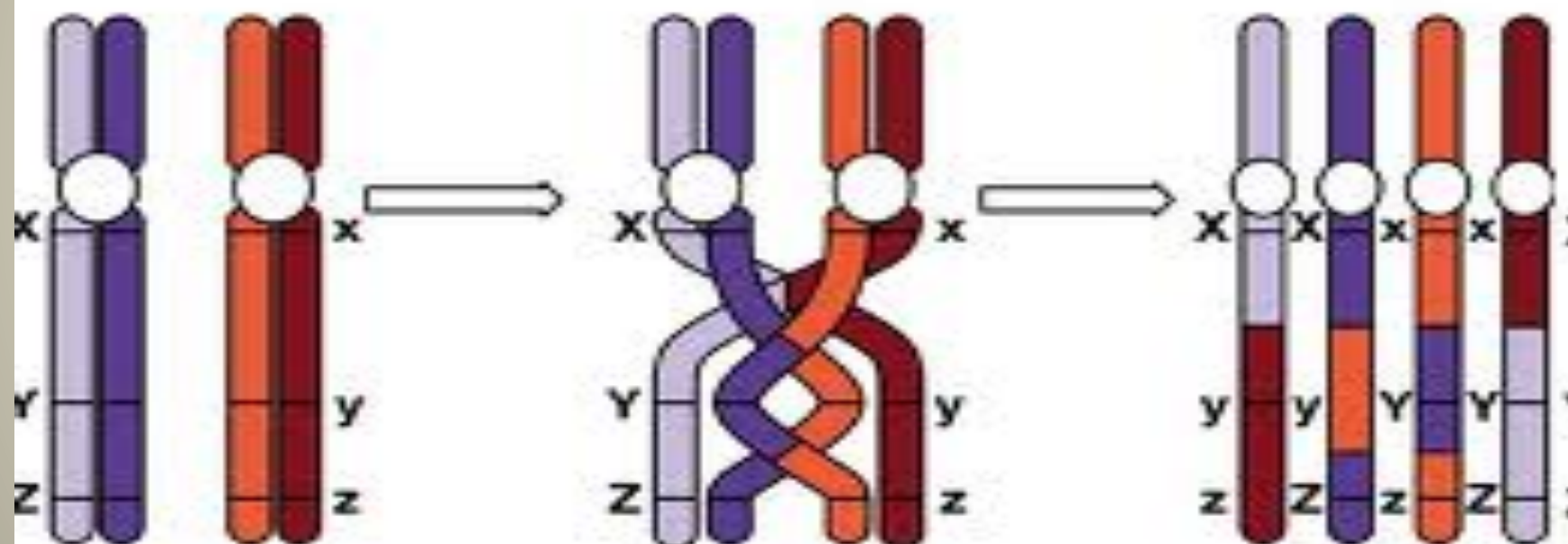   - <u>Crossing over</u>
  - Meiosis II – *sister chromatids*
    - <u>*gametes*</u>

Meiosis I

Dipolid, duplicated chromos.

Haploid, duplicated chromos.

Meiosis II

Haploid, single copies

Crossing over during meiosis

- Comparing Mitosis & Meiosis
  - Mitosis: 2 genetically identical diploid cells
  - Meiosis: 4 genetically different haploid cells