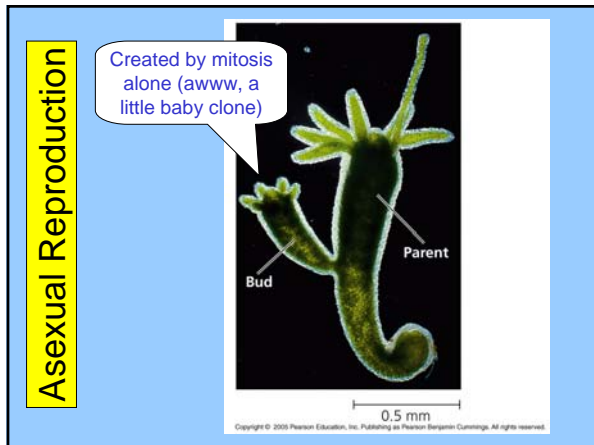
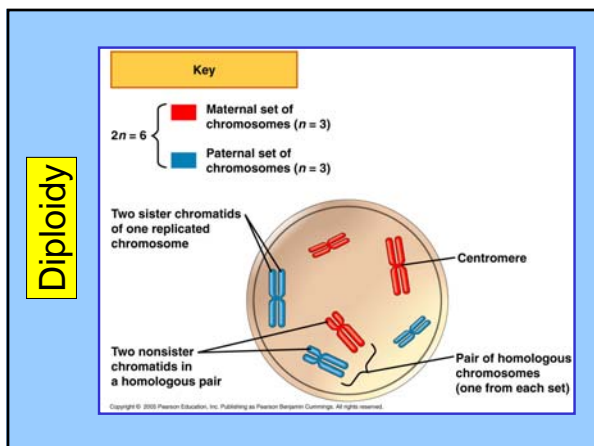


Important Point:

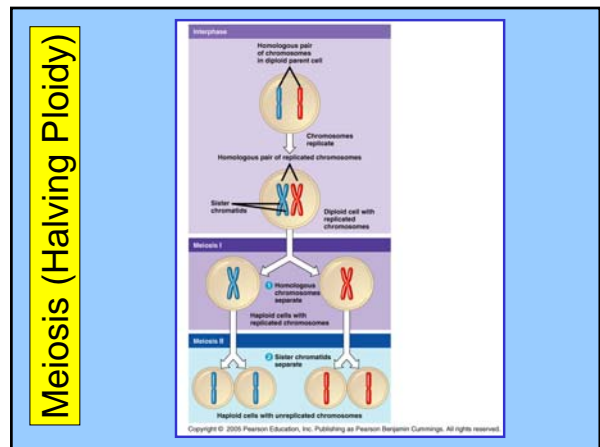
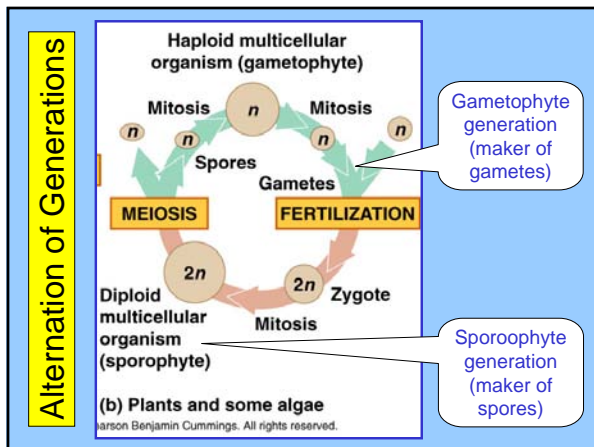
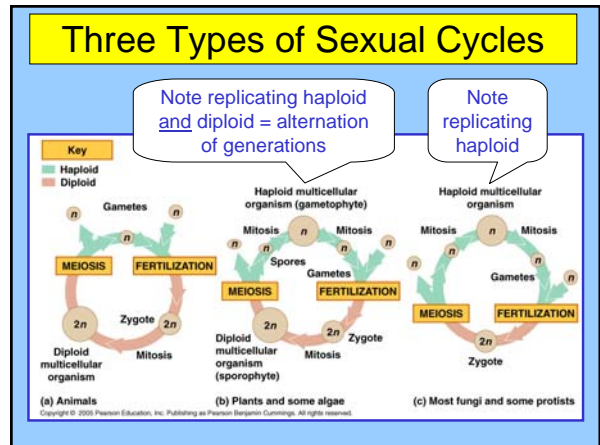
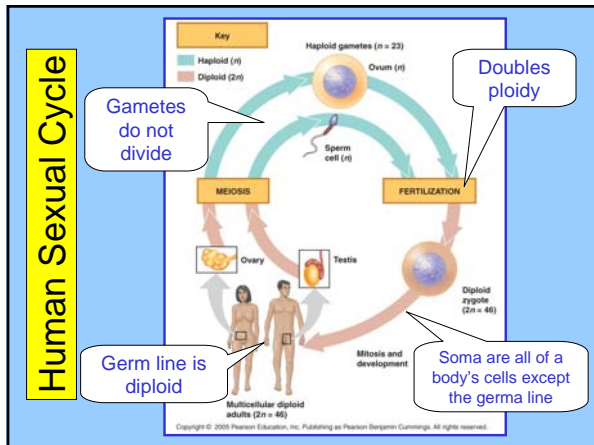
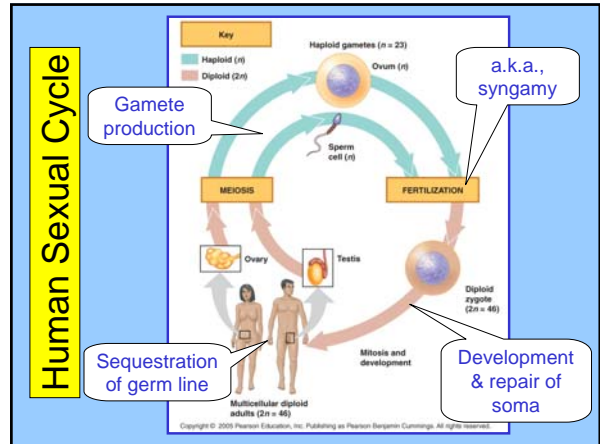
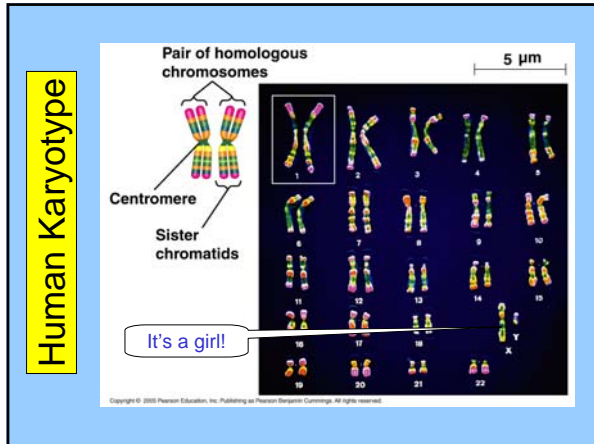
*If you are having trouble understanding lecture material:
Try reading your text before attending lectures.
And take the time to read it well!*

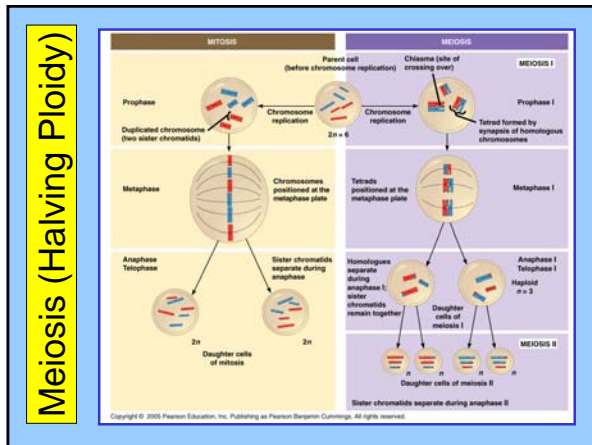
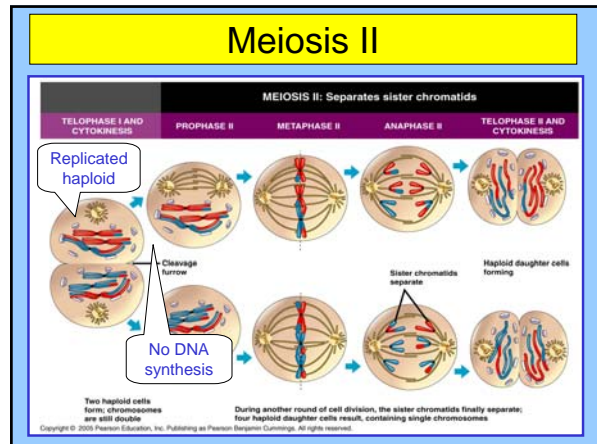
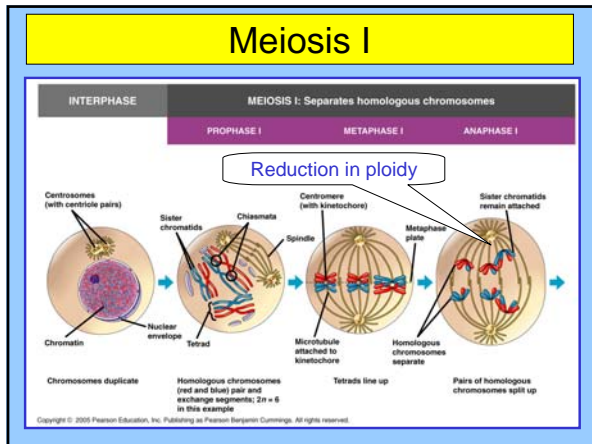


- Homologous Chromosome Pairs**
- ❑ Eukaryote chromosomes come in pairs (homologues)
 - ❑ Normal humans have 46 chromosomes in 23 pairs
 - ❑ One chromosome of each pair comes from an individual's mother, the other comes from their father
 - ❑ Homologous chromosomes (chromosome pairs) carry genes that control the same Characters, e.g., eye color, blood type, flower color, height, etc.
 - ❑ Homologous chromosomes have nearly identical structure, banding patterns, and nucleotide sequences
 - ❑ Locus: Physical site on chromosomes where given gene is located
 - ❑ Allele: Different forms of the same gene, e.g., A, B, or O blood-type alleles

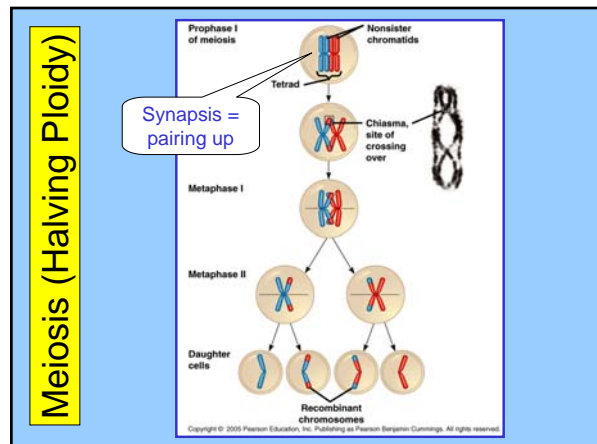
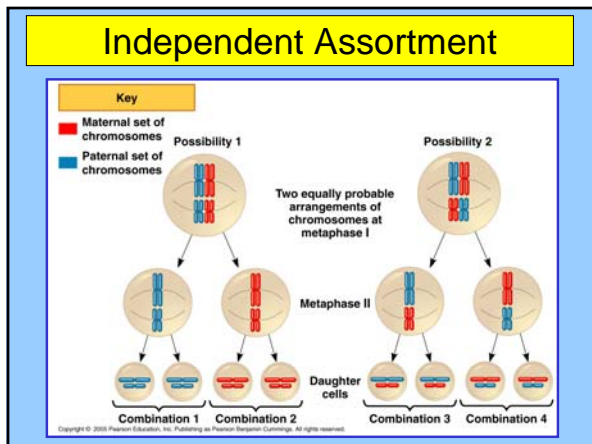


- Autosomes and Sex Chromosomes**
- ❑ Autosomes: Found in both males and females
 - In humans there are 22 pairs of autosomes
 - Autosomes that are the same size (& structure) are called homologues
 - ❑ Sex Chromosomes: Determine an individual's gender
 - One pair of chromosomes (X and Y)
 - The X and Y chromosomes are not homologous
 - The X chromosome is much larger than the Y chromosome and contains many genes
 - The Y chromosome has only a small number of genes
 - In humans and other mammals females are XX and males are XY





- ## Variation via the Sexual Cycle
- Crossing Over:
 - After crossing over and synapsis, sister chromatids are no longer identical
 - Independent Assortment:
 - Each human can produce over 8.3 million different gametes by random shuffling of chromosomes in meiosis I
 - Fertilization:
 - A couple can produce over 64 trillion (8.3 million x 8.3 million) different zygotes during fertilization.
 - This figure *does not* take into account diversity created by crossing over



Probability Theory (ch. 14 preview)

1. Statistical Independence
2. Range of Probabilities (0..1)
3. Law of Multiplication
4. Calculation for Events not Happening
5. The Law of Addition

Sordaria (from lab)



The End

