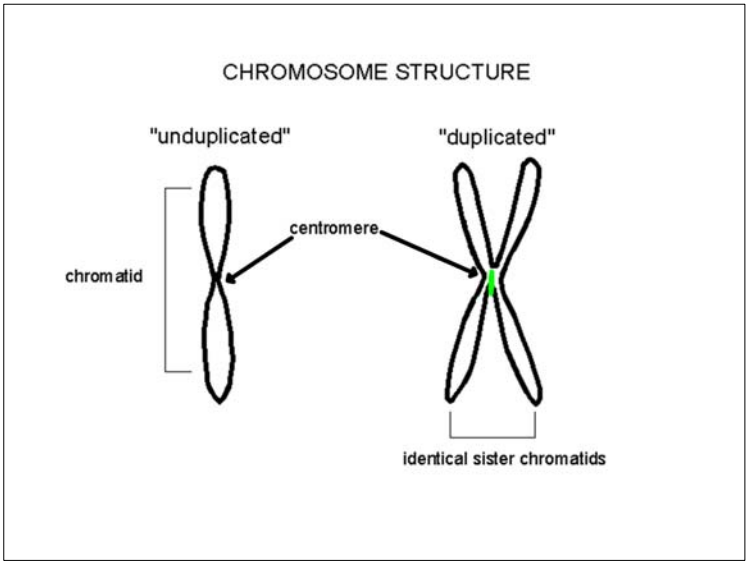
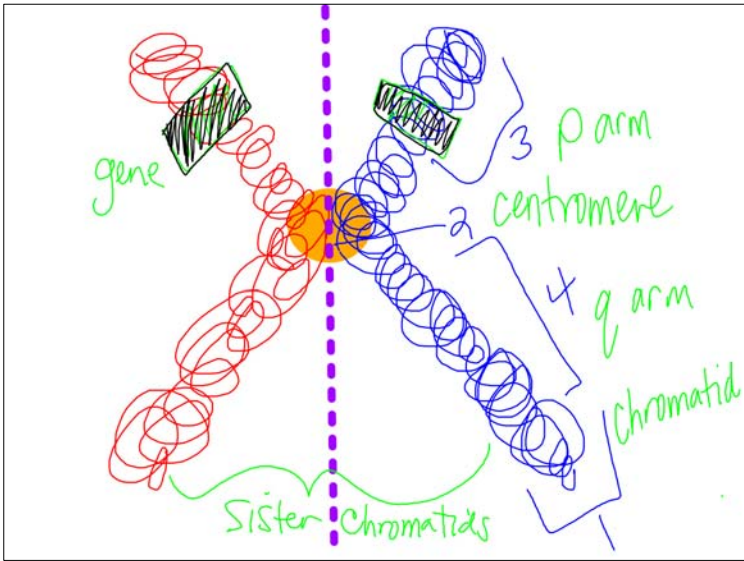
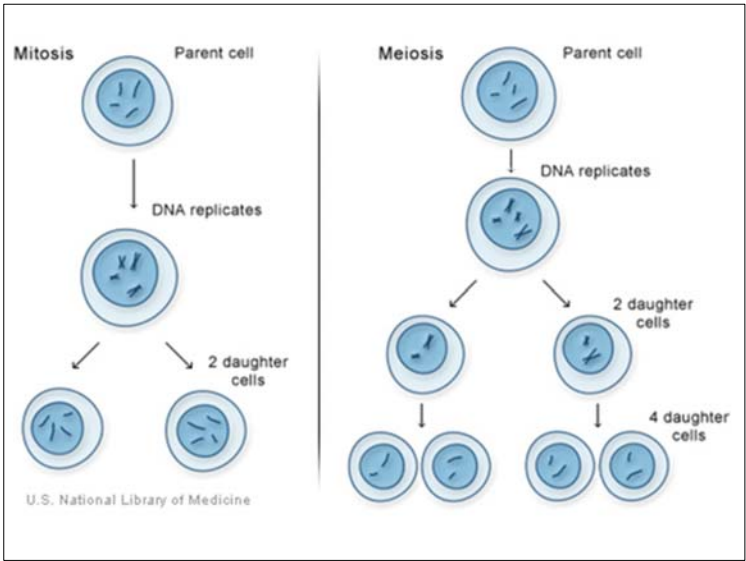
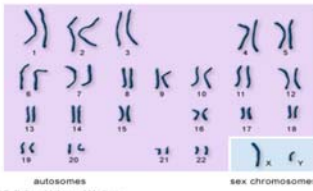
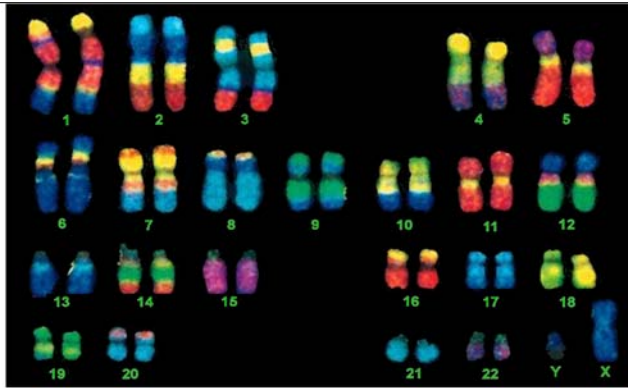
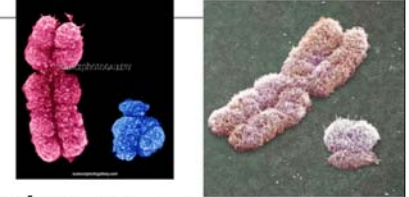


Mitosis	Pg. 9	Meiosis
occurs in a		occurs in a
body cell (somatic cell)		gamete producing organ
which is a		which is a
diploid cell		diploid cell
that undergoes		that undergoes
1 cell division		2 cell divisions
forming		forming
2 identical diploid cells		4 unique haploid cells
having the		having
same		half
number of		the number of
chromosomes		chromosomes
as the		as the
original cell		original cell



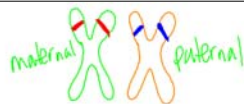


Chromosomes

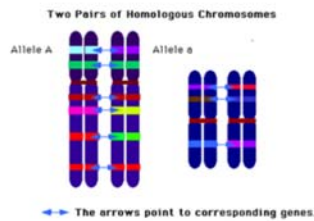
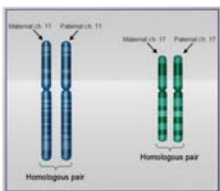


- 2 chromosomes are **sex chromosomes**
 - Female: XX Male: XY (pair 23)
- 44 chromosomes are **autosomes** (pairs 1-22)
- Every cell of an organism produced from sexual reproduction has 2 copies of each autosome
 - 1 Copy of each autosome from each Parent

■ 2 copies of each autosome = **Homologous chromosomes**

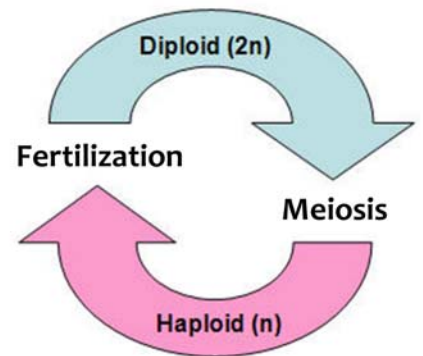
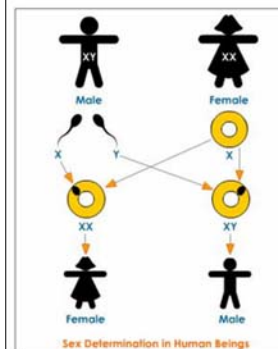


□ Same size, length, shape and carry same genes for the same traits

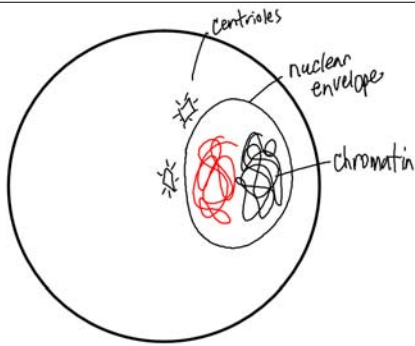


■ On Homologous chromosomes are **alleles**:

- Alternate forms/variations of genes



Interphase:



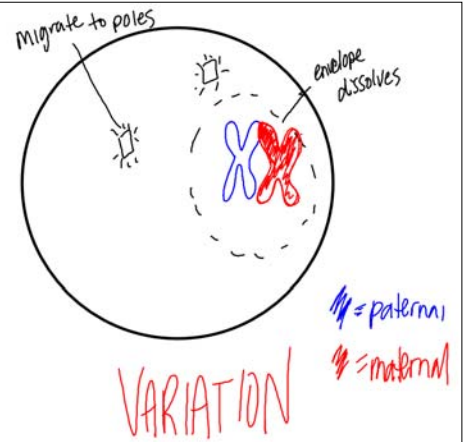
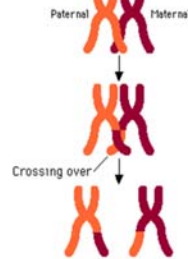
Meiosis I:

1st Nuclear Division

1 Diploid cell --> 2 Haploid cells

Prophase I:

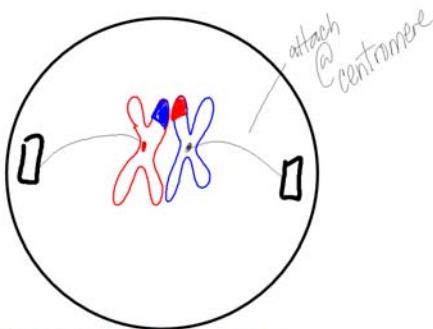
Synapsis: Pairing of homologous chromosomes



Crossing over: Chiasma

Metaphase I:

(middle)

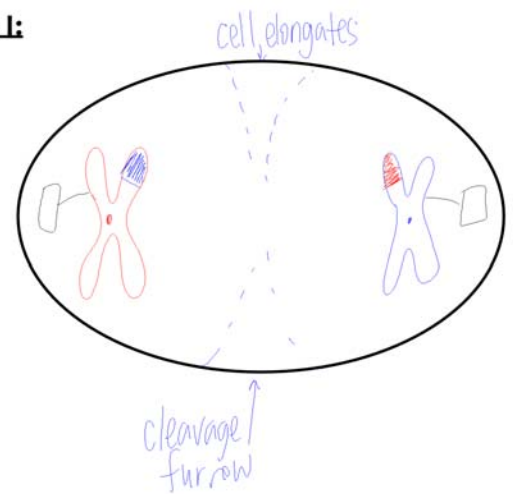


Independent Assortment:

Random arrangement of homologous chromosomes

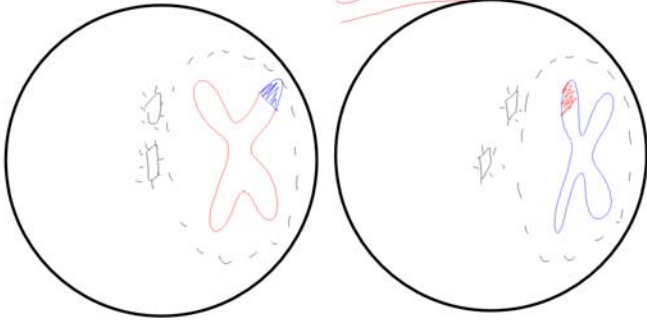
VARIATION

Anaphase I:



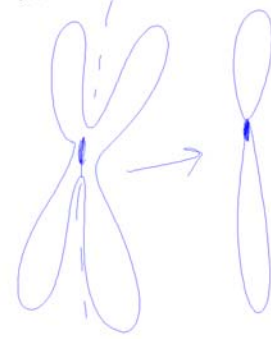
Telophase I:

2 Haploid cells

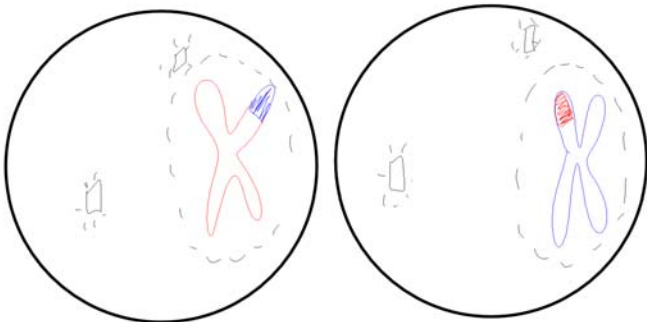


Meiosis II:

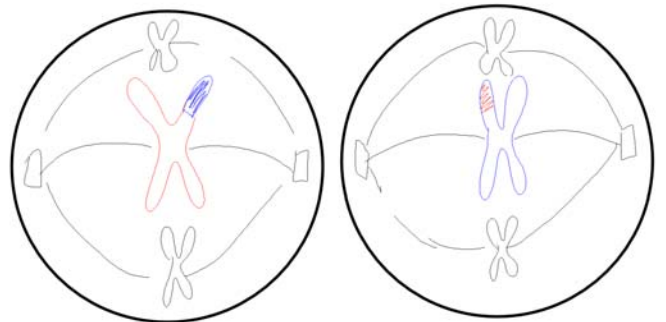
2 haploid cells → 4 haploid cells



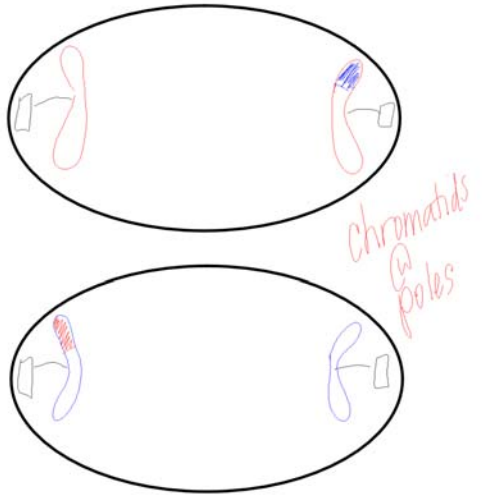
Prophase II:



Metaphase II:



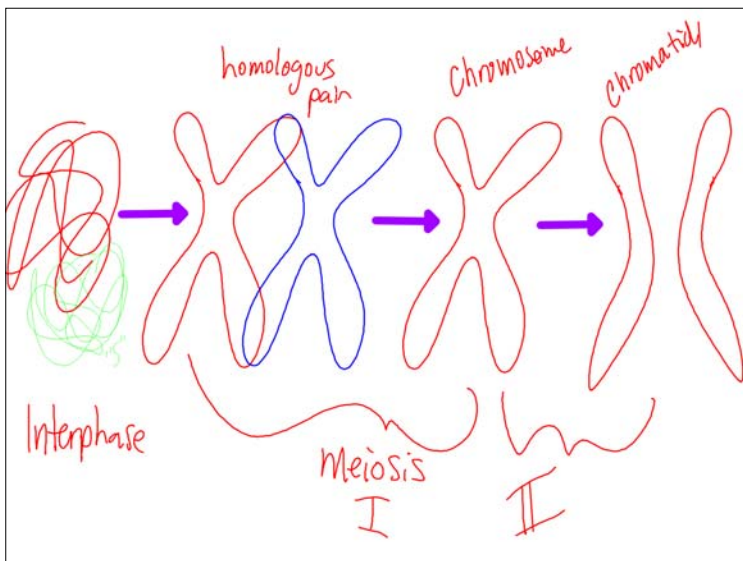
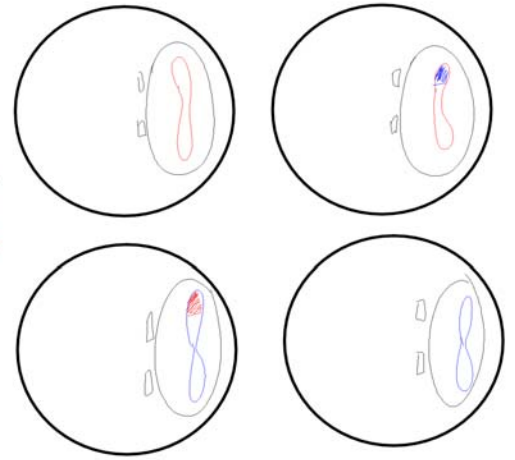
Anaphase II:



Telophase II:



4 unique
Haploid cells



Final Result:

Males:
- 4 Sperm (spermatogenesis)

Females:
- 1 egg
- 3 polar bodies (Oogenesis)

