Name: _____

Date: _____ Per: _____

Genetics Fill-in Notes

6.2 Process of Meiosis

Objectives

Key Concept:

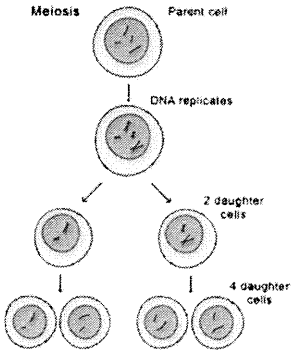
Notes:

Vocabulary

During Meiosis, diploid cells undergo _____ cell divisions that result in _____ cells

- Gametogenesis: the production of a gamete
- Sperm: the male gamete
- Egg: the female gamete
- Polar Body: the other cells produced in meiosis, cells with little more DNA and are eventually broken down.

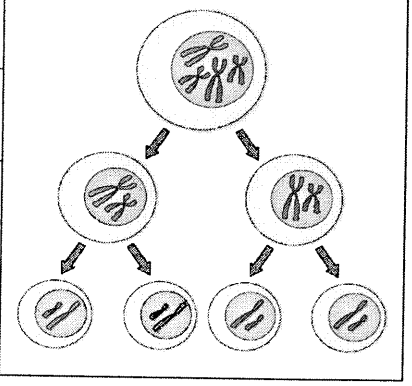
1. What is Meiosis?



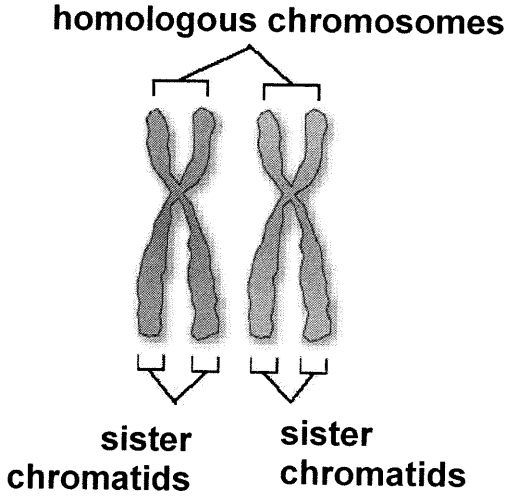
_____ is the formation of haploid cells. It is the process of nuclear division that reduces the number of _____ in new cells to half (n = haploid) the number of the original cell (2n = diploid).

Cells go through _____ _____ of divisions in Meiosis

Meiosis reduces chromosome number and creates _____ _____

MEIOSIS	
Produces genetically unique cells	
Results in haploid cells	
Takes place only at certain times in an organism's life cycle	
Involved in sexual reproduction	

2. What is the Process of Meiosis?



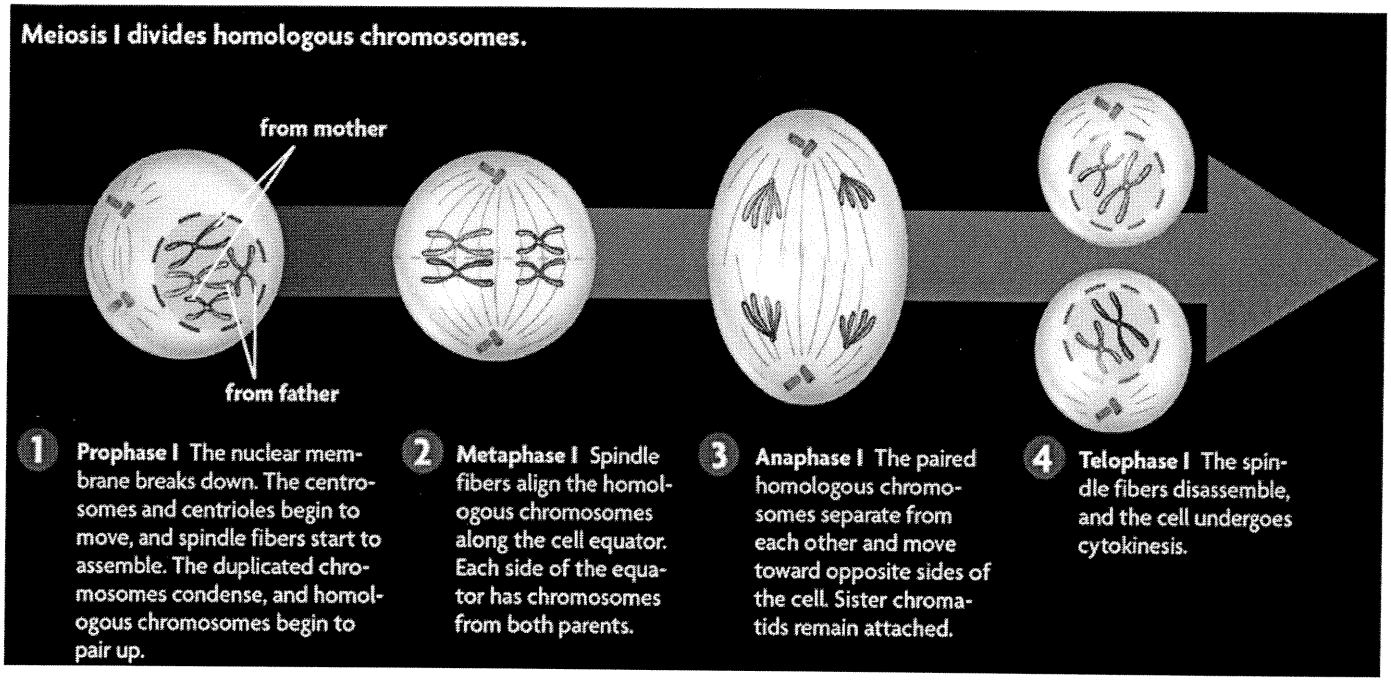
Meiosis I and Meiosis II each have_____ phases similar to those in Mitosis.

- Pairs of _____ chromosomes separate in meiosis I.
- Homologous chromosomes are similar but not _____.
- Sister _____ divide in meiosis II.
- Sister chromatids are copies of the same _____.

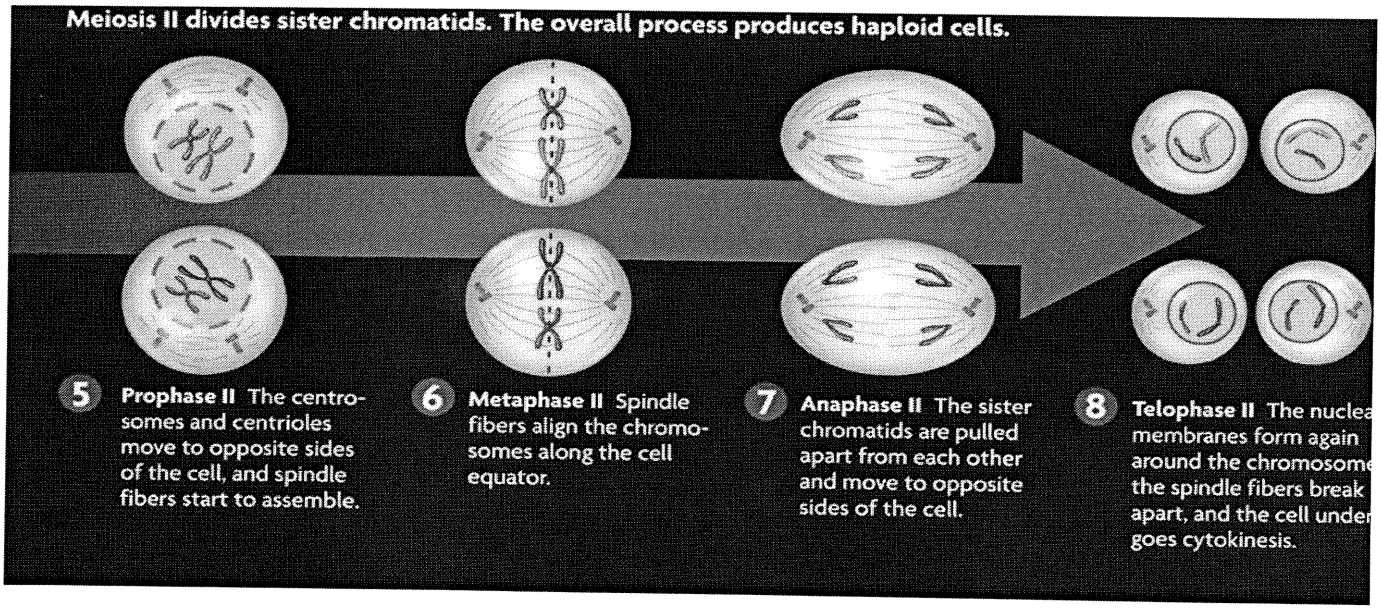
What is Meiosis? (continued)

Have students draw this on separate paper ↓

- Meiosis I occurs after DNA has been replicated
- Meiosis I divides homologous chromosomes in four phases.

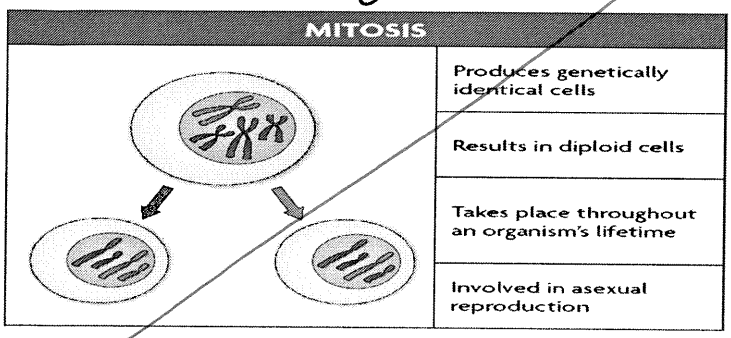


- Meiosis II divides sister chromatids in four phases
- DNA is not replicated between meiosis I and meiosis II.

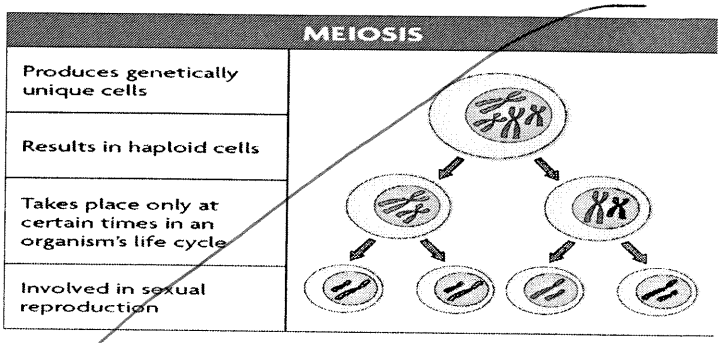


3. Comparing Meiosis to Mitosis

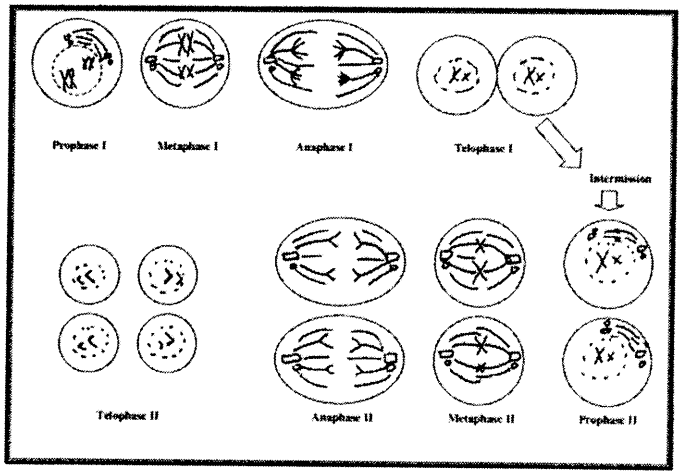
on 6.1 6.0



- Meiosis differs from mitosis in significant ways.
  - Meiosis has _____ cell divisions while mitosis has_____
  - In mitosis, homologous chromosomes _____ pair.
  - Meiosis results in _____ cells, mitosis results in _____ cells.



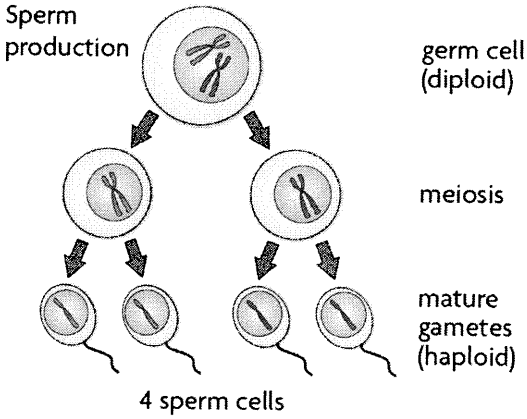
4. How haploid cells develop into mature gametes?



_____ – is the production of a gamete

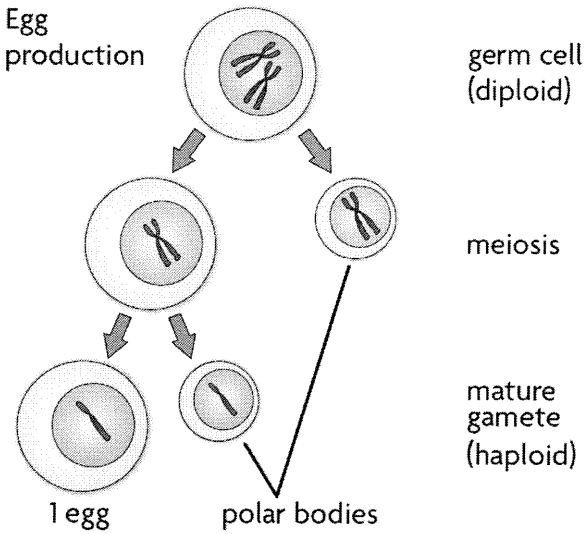
- Gametogenesis differs between females and males

5. Gametogenesis in Males



- In males, this takes place in the testes and is called _____.
  - Sperm becomes streamlined and motile
  - Sperm primarily contribute _____ to an embryo
  - End result is 4 sperm cells

6. Gametogenesis in Females



- In females, this takes place in the ovaries and it is called _____.
  - Eggs contribute _____, _____, and _____ to an embryo
  - During meiosis, the egg gets most of the contents; the other cells form _____ _____.
  - End result is 1 egg and polar bodies

Note Questions → To Secretive or Exit Slip last 5-10 minutes

1. Sperm and egg are formed through the process of _____.

2. For egg formation, on of the cells resulting from Meiosis becomes an egg and the others become _____.

3. What is the end result of Meiosis?

4. What are two differences between Meiosis and Mitosis?
   a.
   b.