

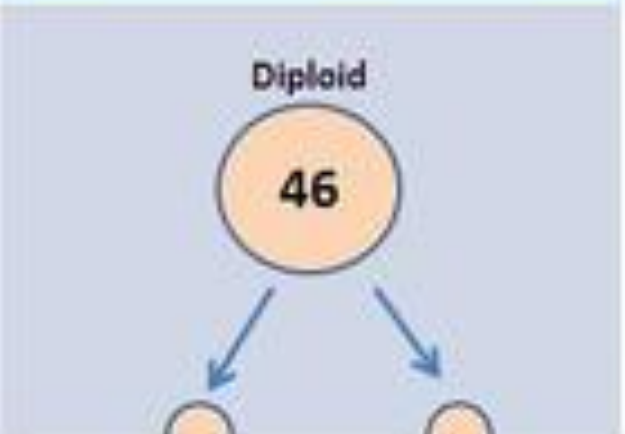
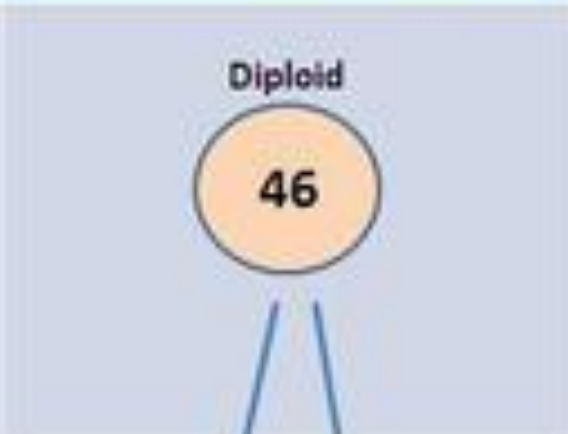


Chapter 8

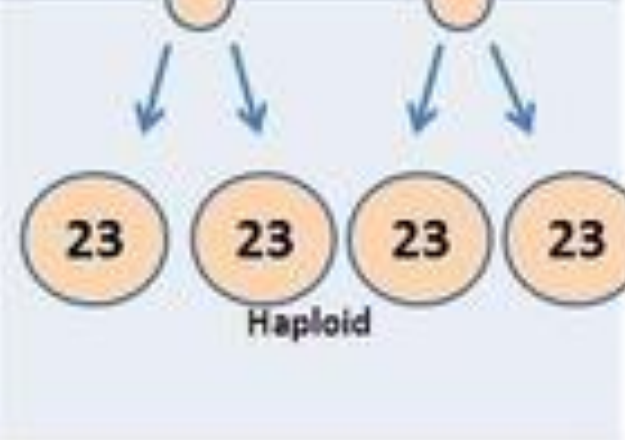
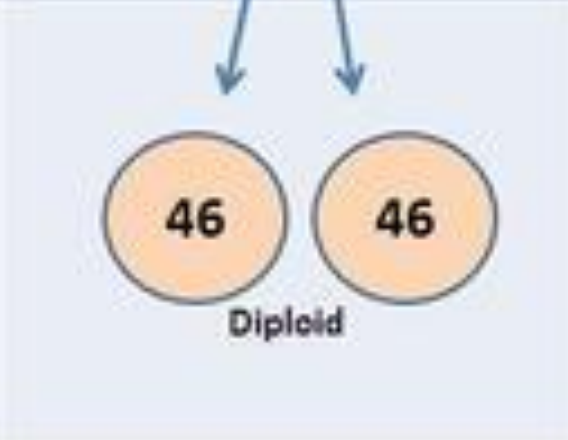
Meiosis

	Mitosis	Meiosis
--	---------	---------

Start



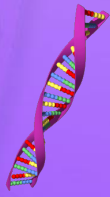
End



9.3 Meiosis



A type of cell division that **gametes (eggs and sperm)** undergo



A cell has **two copies** of each chromosome.



Humans have **46 chromosomes** or **23 pairs**.

Homologous Chromosomes

Two chromosomes that make up a pair

Carry the same types of information

One originally came from mom and one originally came from dad

Diploid

A cell with **pairs of chromosomes**

One from mom and one from dad

2N

Diploid number for **humans is 46**

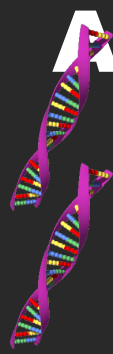


Haploid

**A single set of
chromosomes**

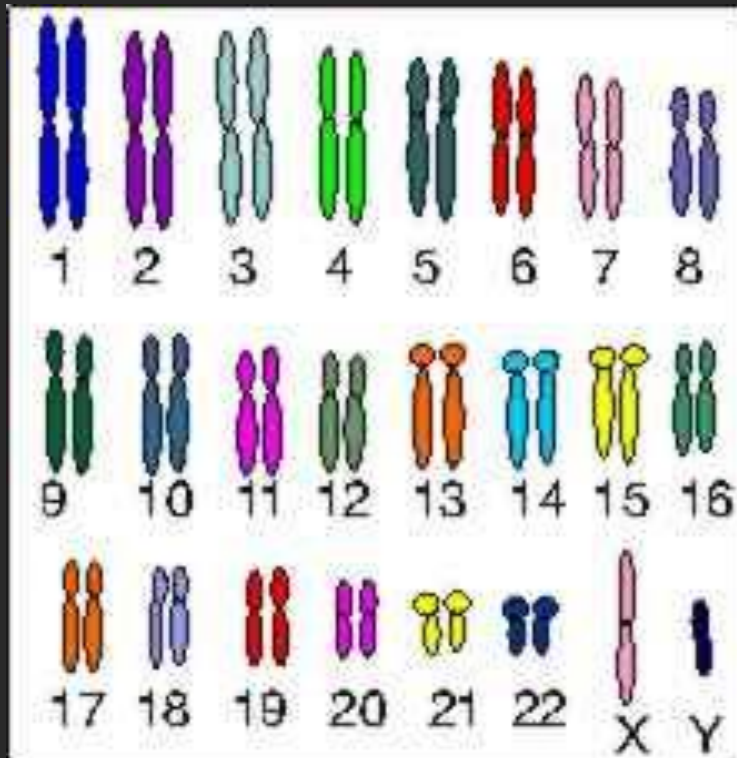
1N

Autosomes



Body cell chromosomes

Humans have 22 pairs



Sex Chromosomes

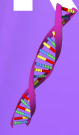
X and Y

Humans have **two**

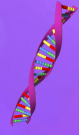
Females have **2 X chromosomes**

Males have an **X and Y chromosome**

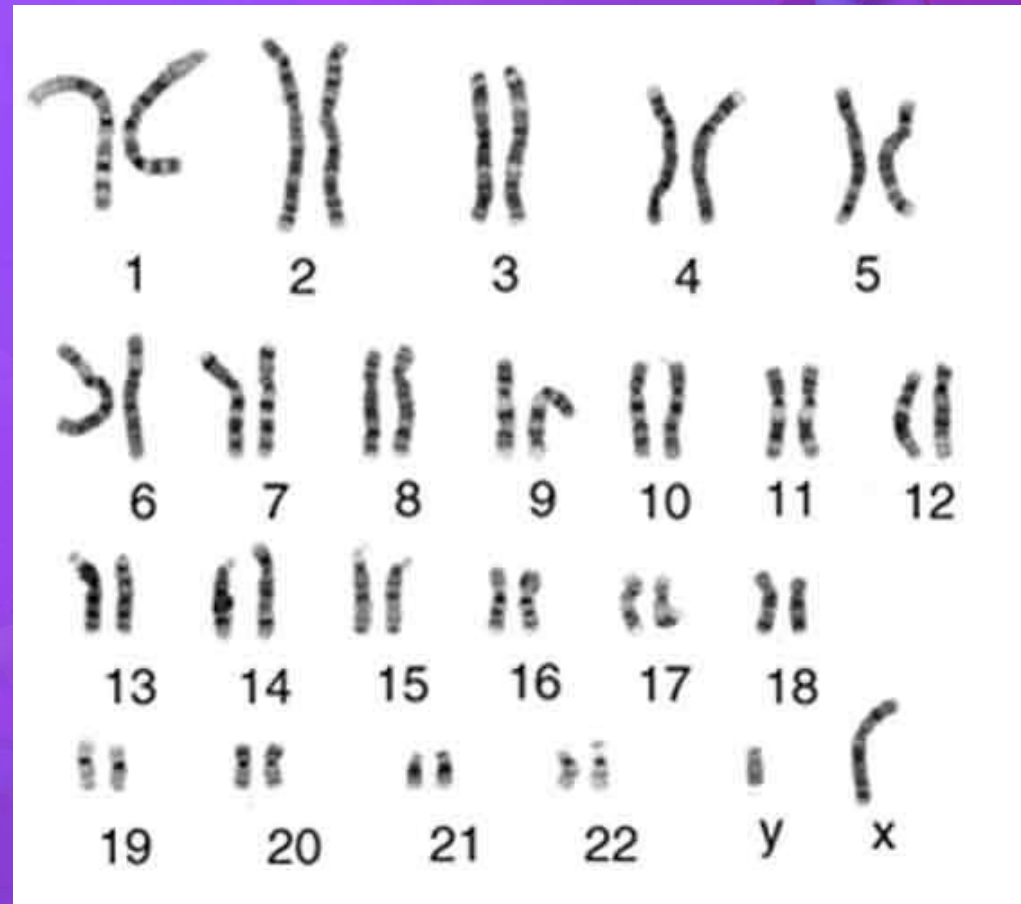
Karyotype



A picture of all of **the chromosomes found in one cell.**



Can be used to **determine gender** and **genetic diseases.**



Meiosis

 **2N** produces **1N**

Process of **reduction division** in which the **number of chromosomes** per cell is **cut in half**

 **2 rounds** of cell division

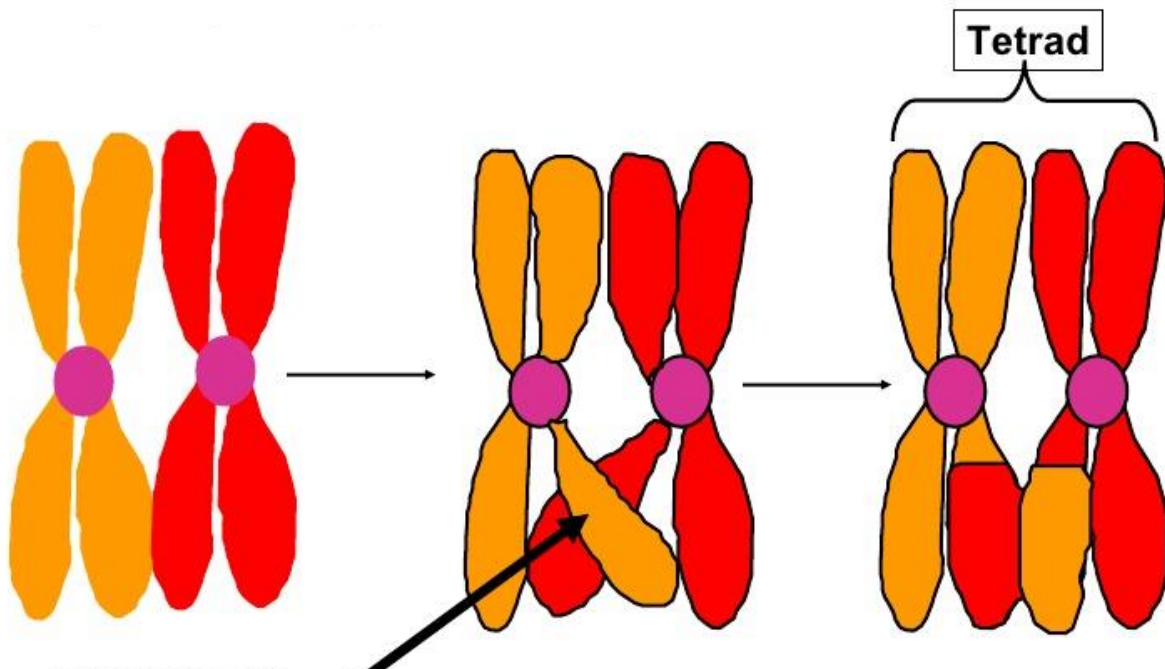
 **Meiosis I** and **Meiosis II**

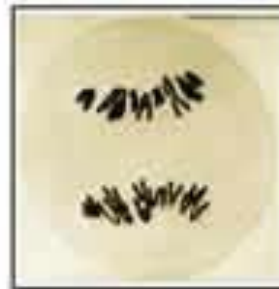
 Produces **gametes** (eggs and sperm)

Tetrad



Crossing Over





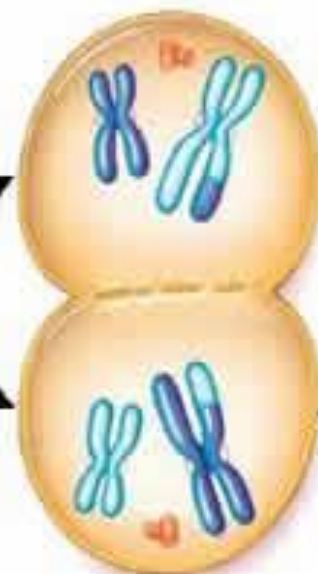
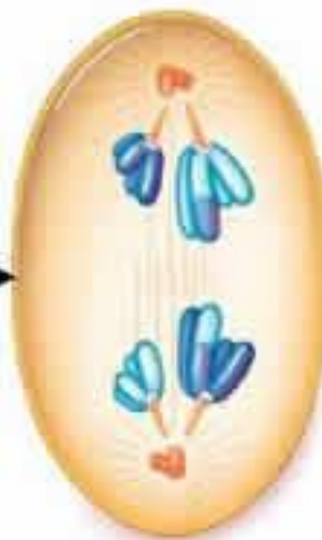
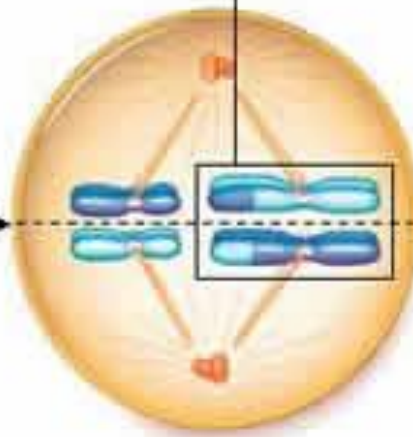
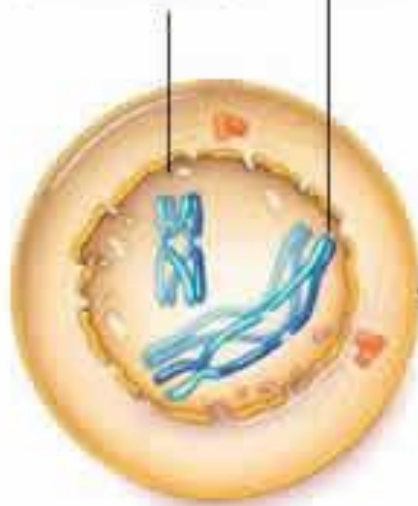
One pair of homologous chromosomes (homologues)

Homologues Condense and cross over

Homologues Align

Homologues Separate

Meiosis I result: homologues separated into 2 cells



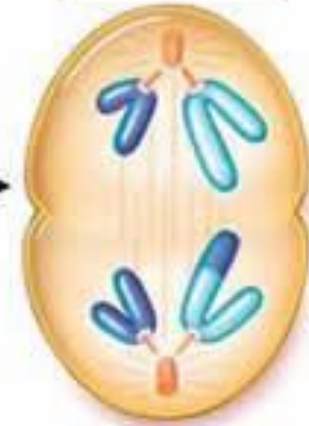
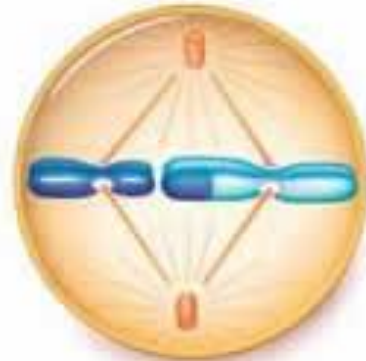
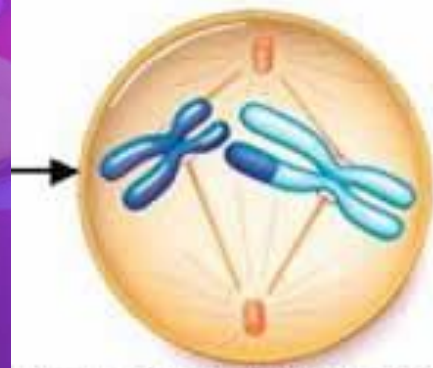
PROPHASE I

METAPHASE I

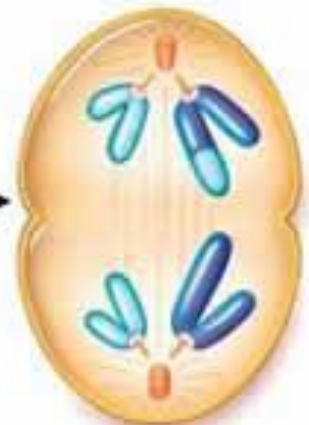
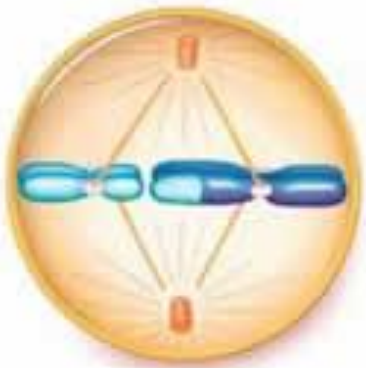
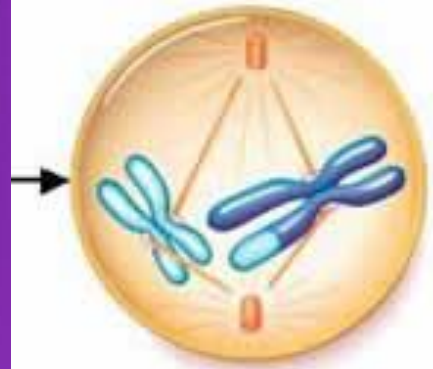
ANAPHASE I

TELOPHASE I

MEIOSIS I: Separate the Homologues



there is no DNA replication between the two divisions



PROPHASE II

METAPHASE II

ANAPHASE II

TELOPHASE II

MEIOSIS II: Separate the Sister Chromatids (by mitosis)

Slide 6

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Meiosis I

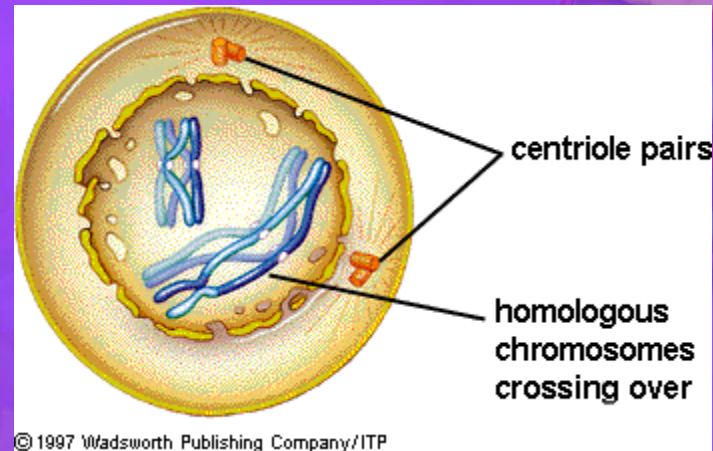
Prophase I

Metaphse I

Anaphase I

Telophase I

Tetrad




Meiosis II

 Prophase II

 Metaphase II

 Anaphase II

 Telophase II

 Telophase II produces gametes (IN)
(eggs or sperm)

