



# MEIOSIS

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Section 10.1

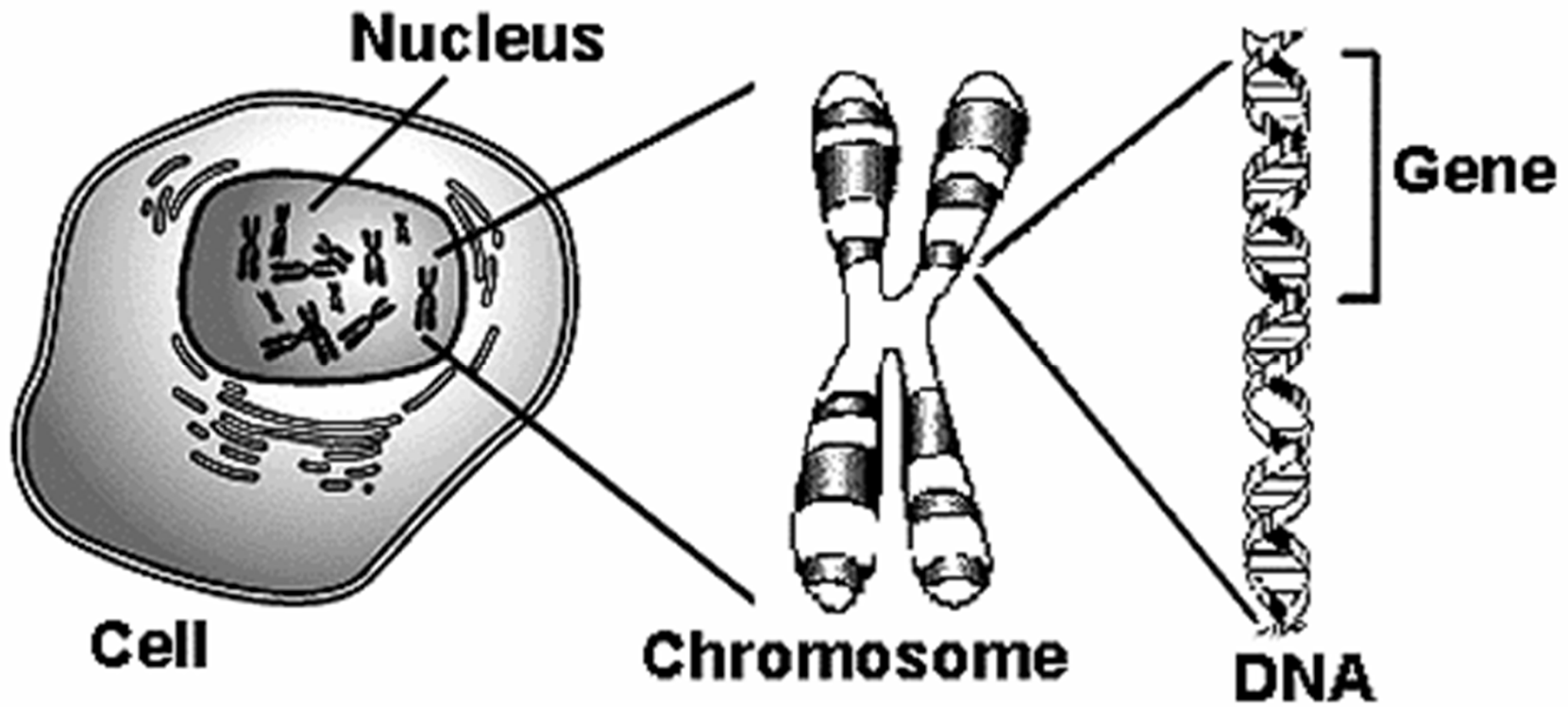
# How Many.....

- Take 3 minutes and list out how many differences there are between all of you in the room
  - Examples could be: gender, height, eye color
- Why are we all different?

# Chromosomes & Chromosome Number

- Characteristics you listed are passed on by your parents
- Each characteristic is called a **trait**
  - Hair color, height, eye color, etc
- Instructions for each trait are located on a **chromosome**
- DNA is arranged in segments on the chromosome
  - Segments are called **genes**
  - Genes control the production of proteins
- Every chromosome has 100's of genes
  - Each gene determines a characteristic of function of the cell

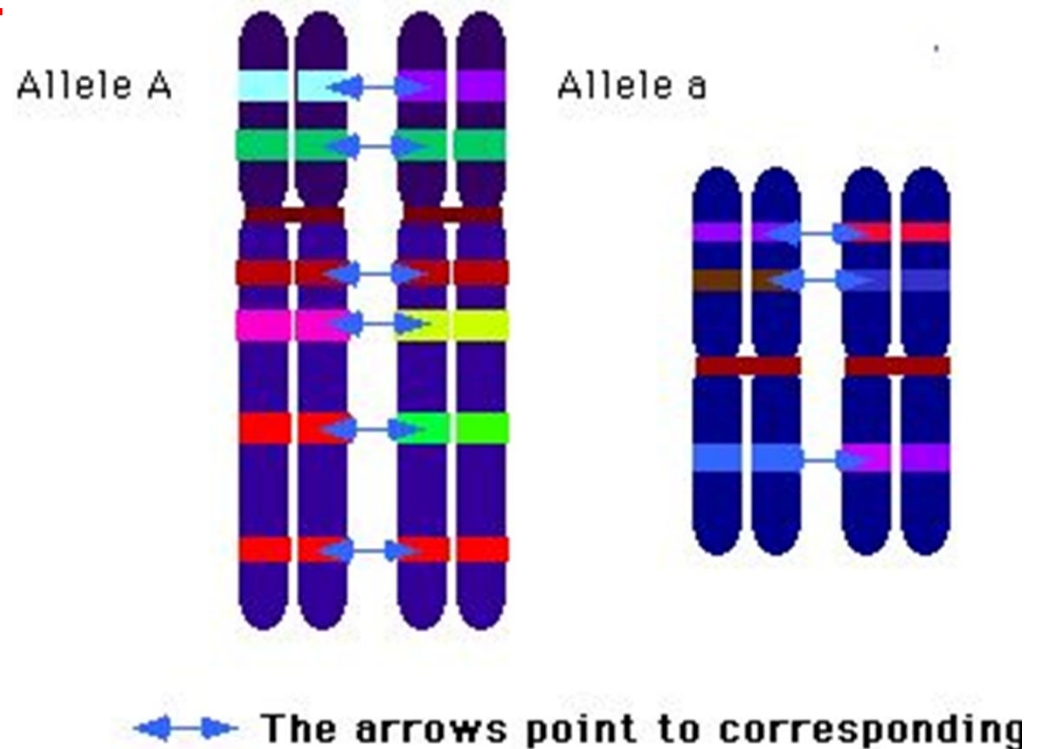
# Chromosomes & Chromosome Number



# Homologous Chromosomes

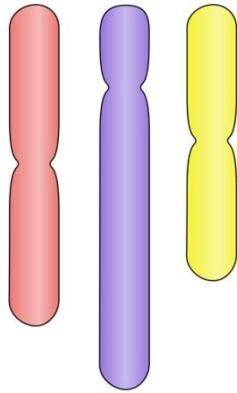
- **Human body cells have 46 chromosomes**
- Each parent contributes 23 chromosomes
  - This gives you 46 individual chromosomes
- There are 23 PAIRS of chromosomes
  - Each chromosome comes from each parent
  - Called **homologous chromosomes**
  - Have the same length, genes, centromere position

Two Pairs of Homologous Chromosomes

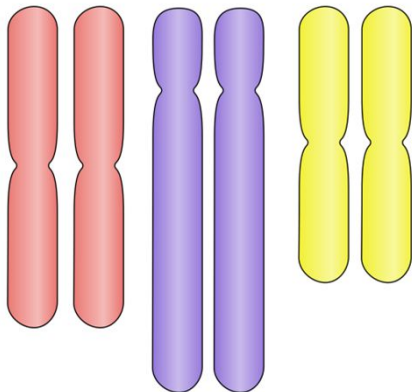


# Haploid and Diploid Cells

Haploid (N)



Diploid (2N)



- Organisms produce **gametes** – sex cells
  - Half the number of chromosomes
- Human gametes have 23 chromosomes
- Gametes are also called **haploid cells**
- When gametes combine through fertilization, the chromosomes double
  - These are now called **diploid cells (somatic or autosomes)**