

# MEIOSIS

The Basis of Heredity

# MEIOSIS . . .

- Cell division in reproductive cells (ovaries, testes)
- One cell divides twice into four NON-IDENTICAL cells
- Meiosis is for reproduction, creates egg and sperm

# PHASES OF MEIOSIS

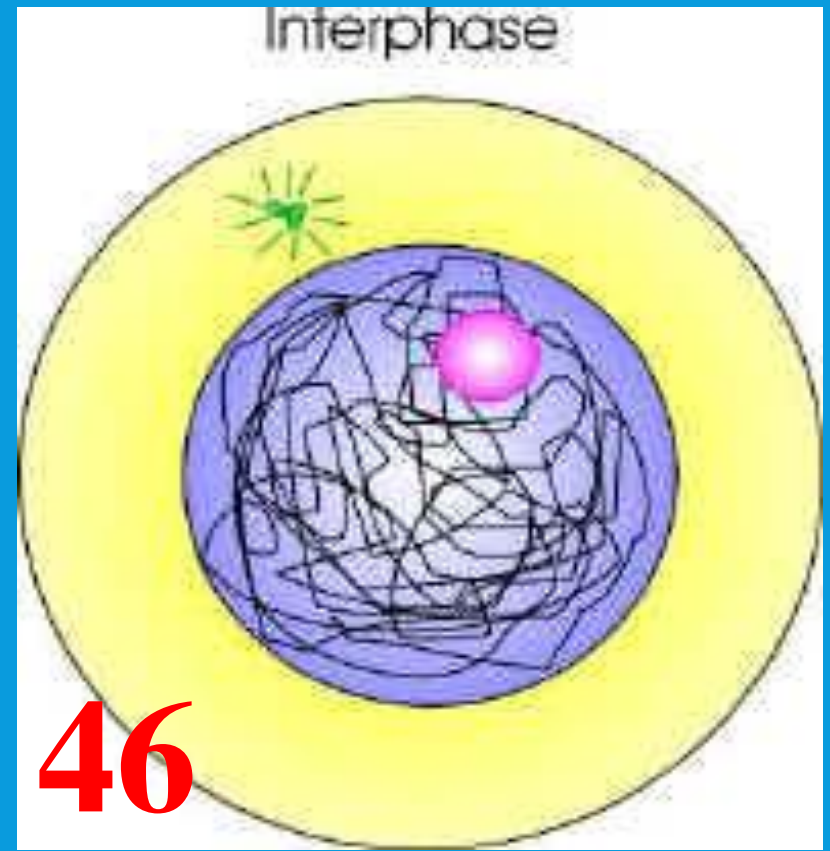
Fill out your chart with the information that follows.

Left column is Meiosis I

Right column is Meiosis II

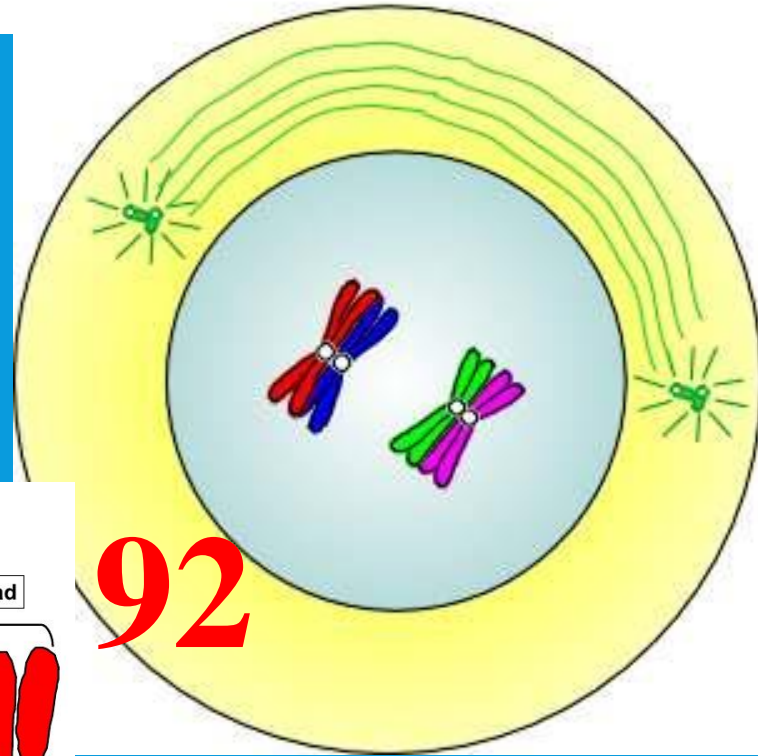
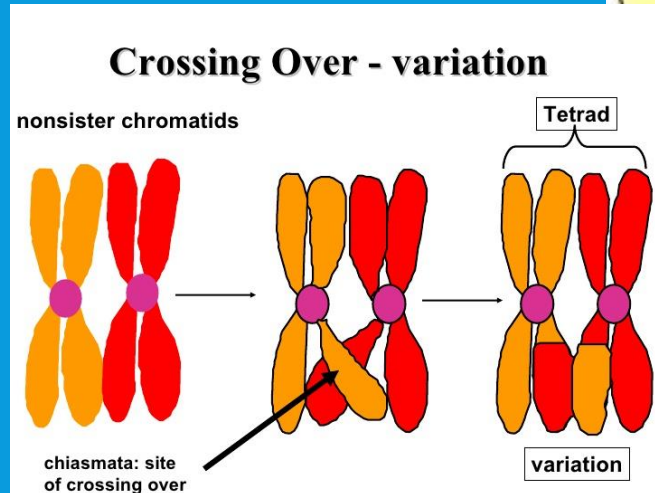
# INTERPHASE I

- One cell prepares to divide
- DNA replicates
- Half your DNA is from mom and half is from your dad!



# PROPHASE I

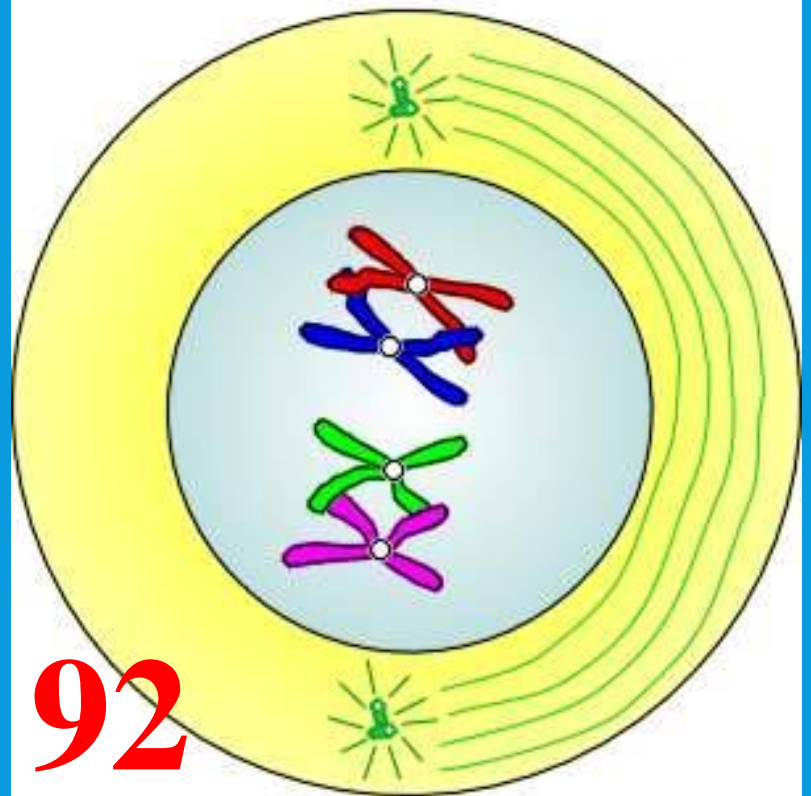
- Chromosomes double- so they are visible as a group of 4
- DNA is NOT identical due to crossing over:
- Crossing over results in each chromosome having different DNA



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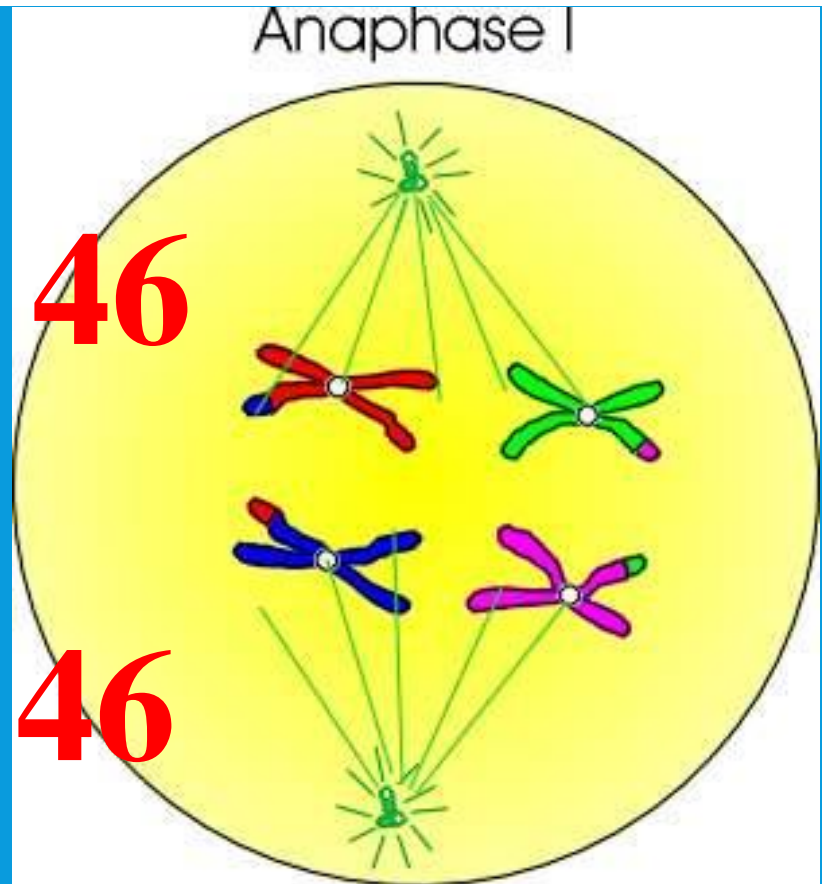
# METAPHASE I

- Chromosomes move to middle



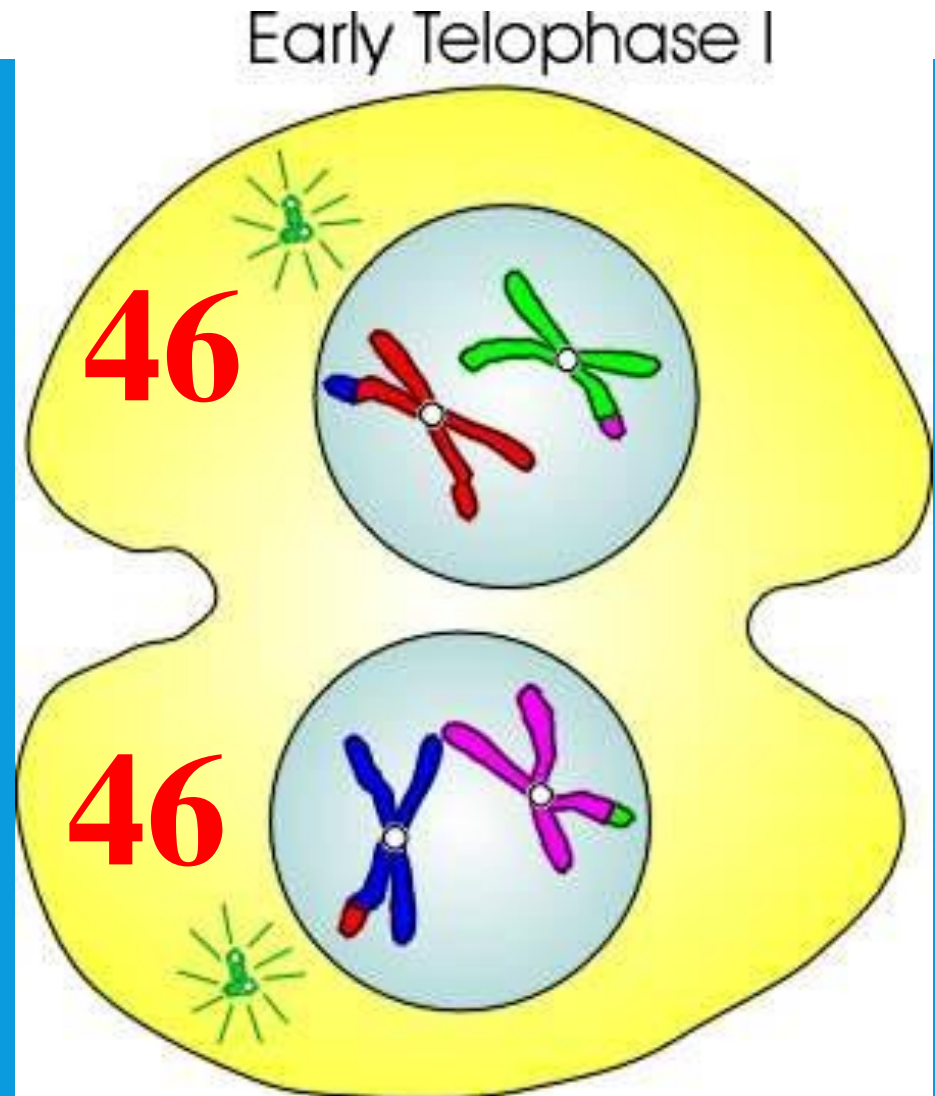
# ANAPHASE I

- Chromosomes split into pairs and move apart toward opposite poles



# TELOPHASE I

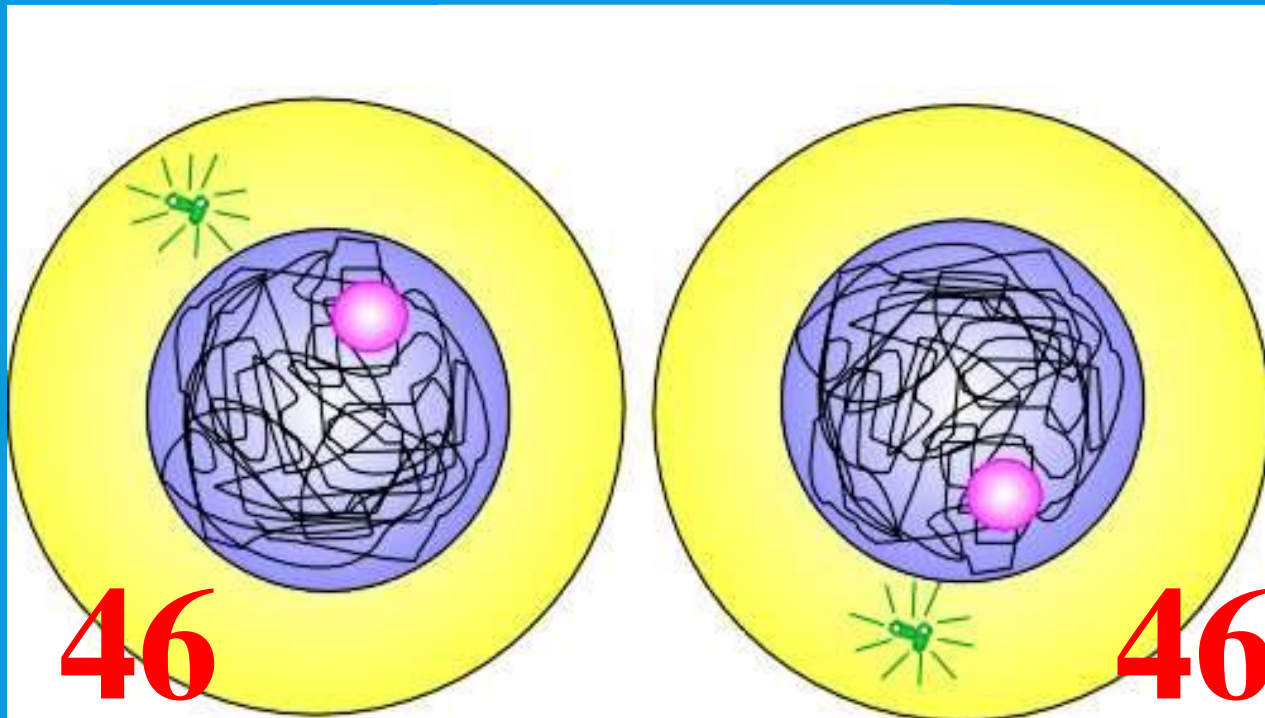
- Two new cells are formed
- They are NOT identical





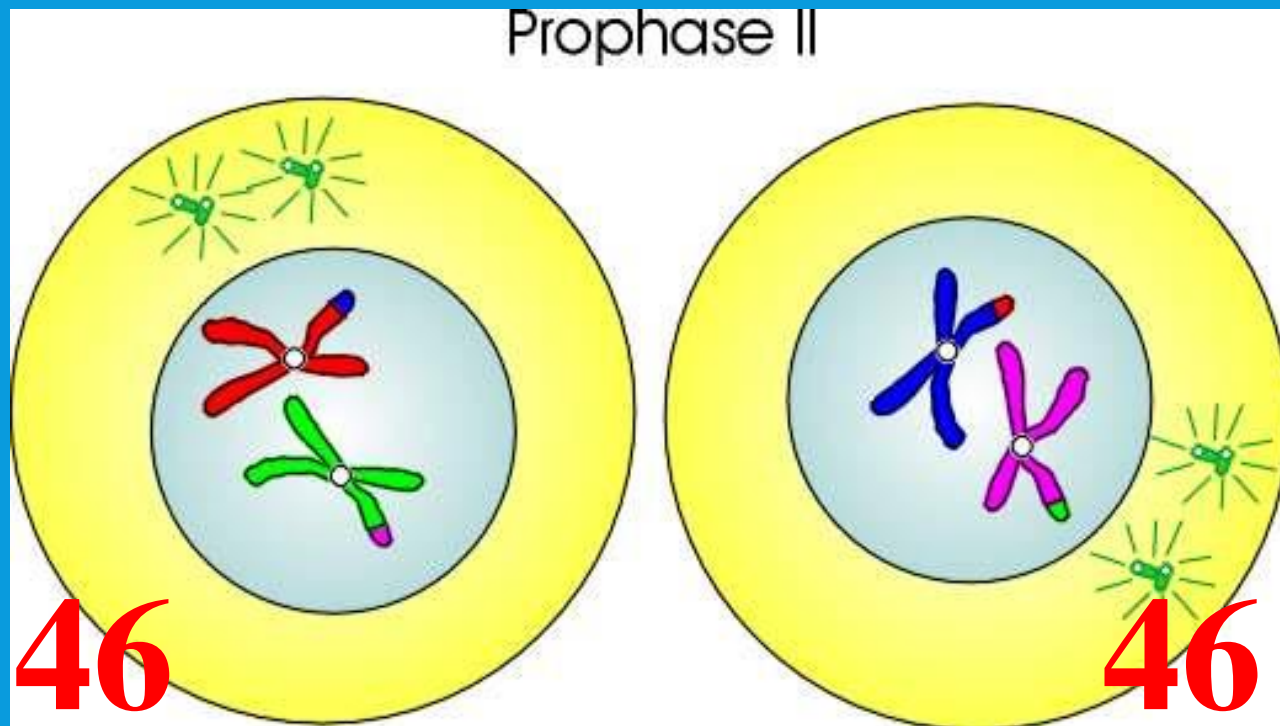
# CYTOKINESIS

- Cytokinesis results in two cells, NOT identical to each other!



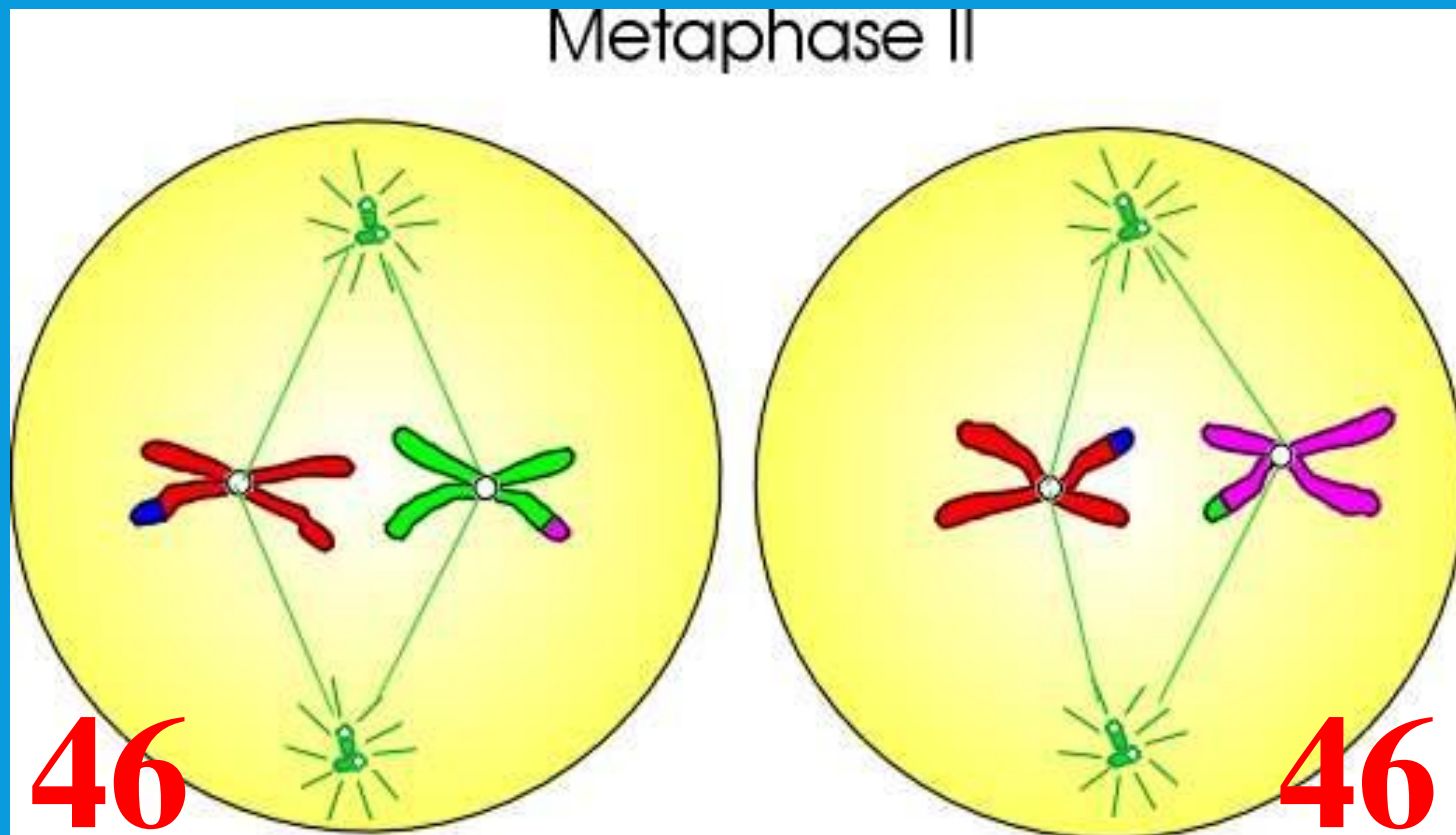
# PROPHASE II

- Chromosomes are in pairs
- NOT identical



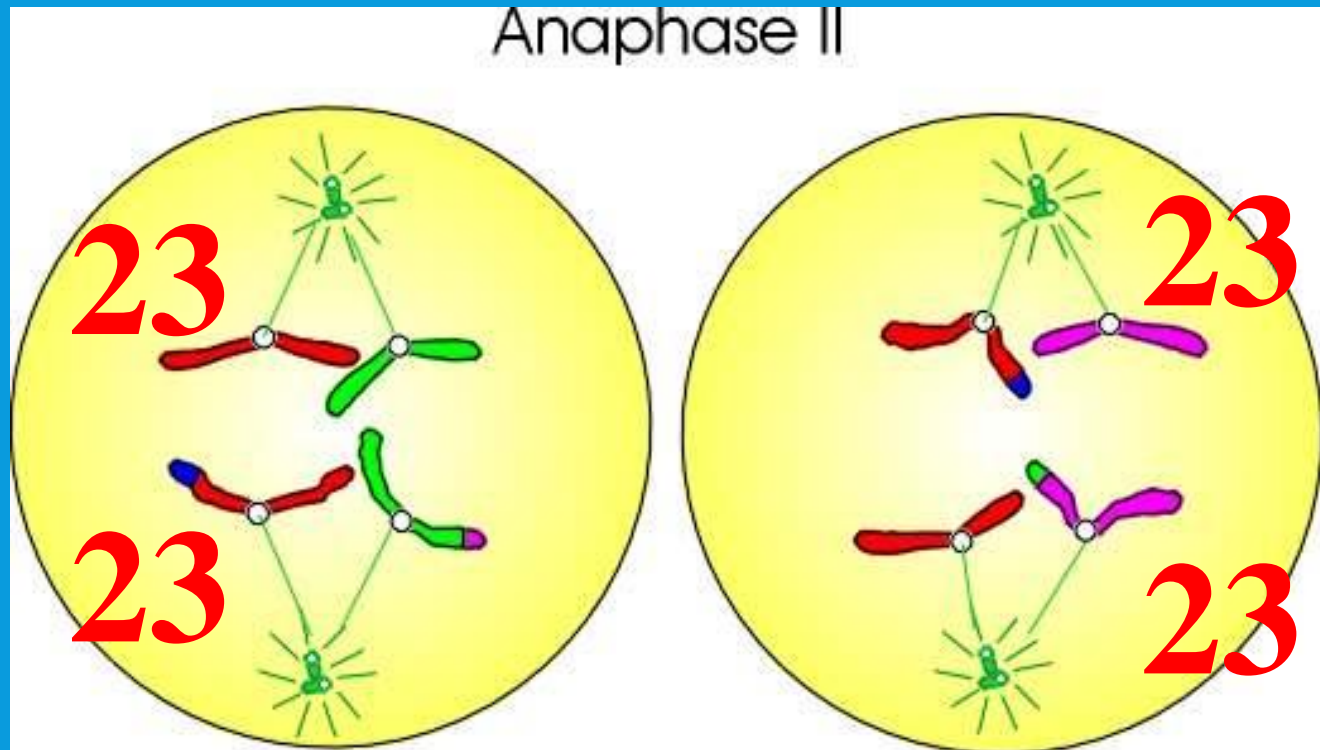
# METAPHASE II

- Pairs line up in middle



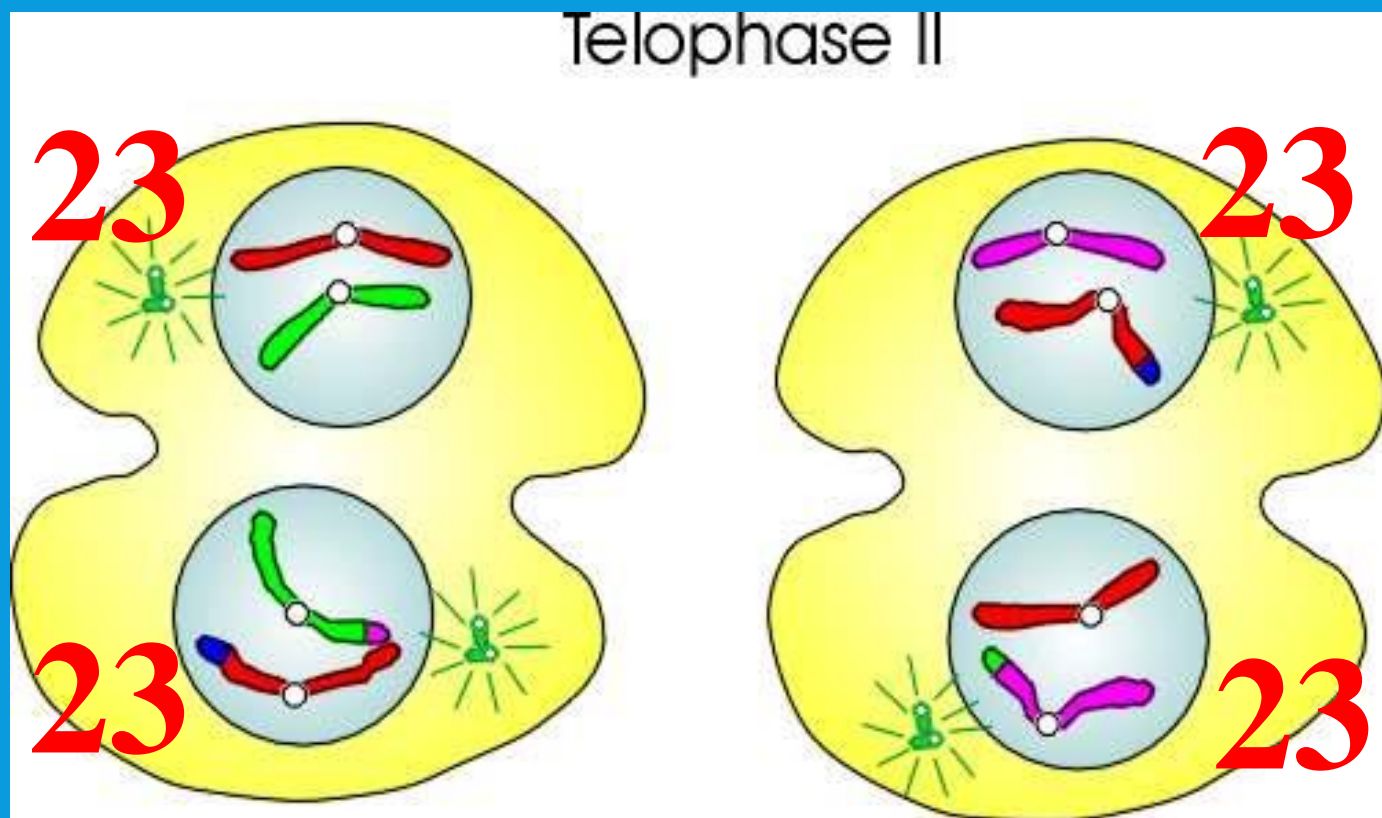
# ANAPHASE II

- Pairs separate into single chromosomes and move to opposite poles



# TELOPHASE II

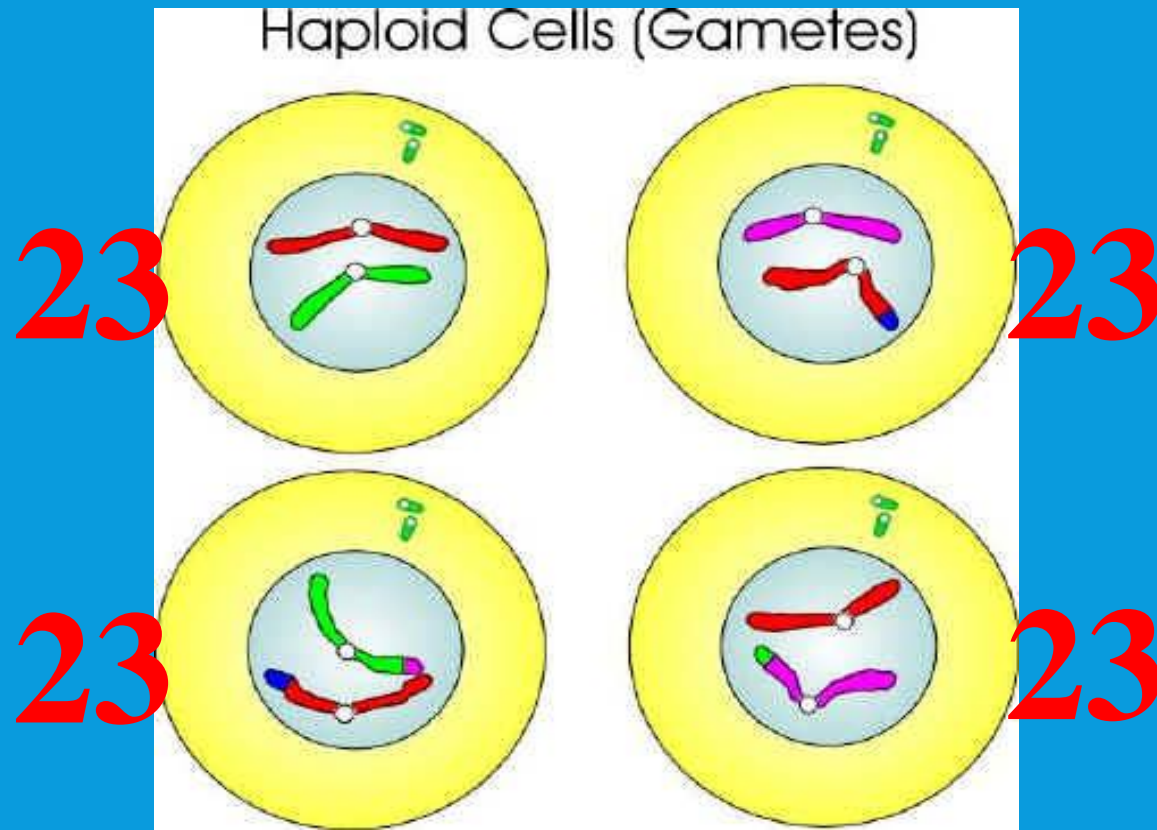
- Four new haploid non-identical cells are formed





# END RESULT OF MEIOSIS

- In males = 4 sperm (not identical)
- In females = 1 egg, 3 reabsorbed

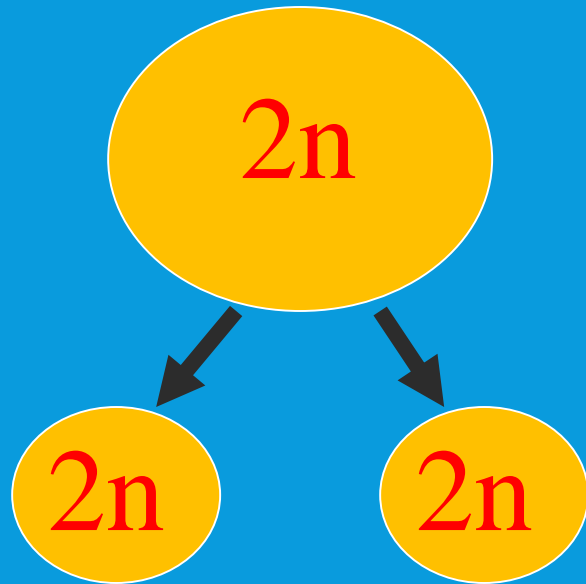


# SEXUAL REPRODUCTION:



Results in zygote (fertilized egg cell)

# MITOSIS



# MEIOSIS

