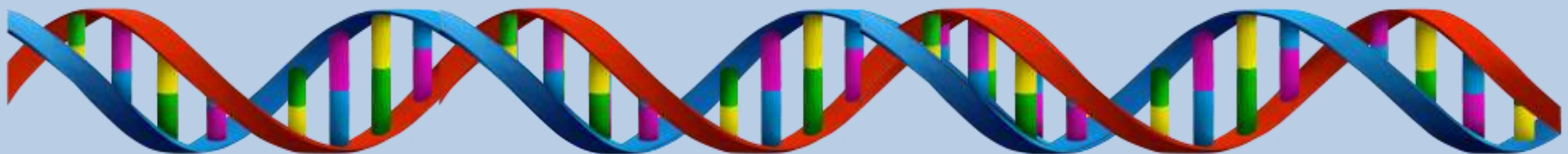


Tape Unit 6 Cover Sheet on pg. 55

- 1. Why does mitosis happen?**
- 2. What is the product of mitosis?**
- 3. What is the diploid number of human cells?**
- 4. What is the haploid number of human cells?**



EVERYDAY I'M

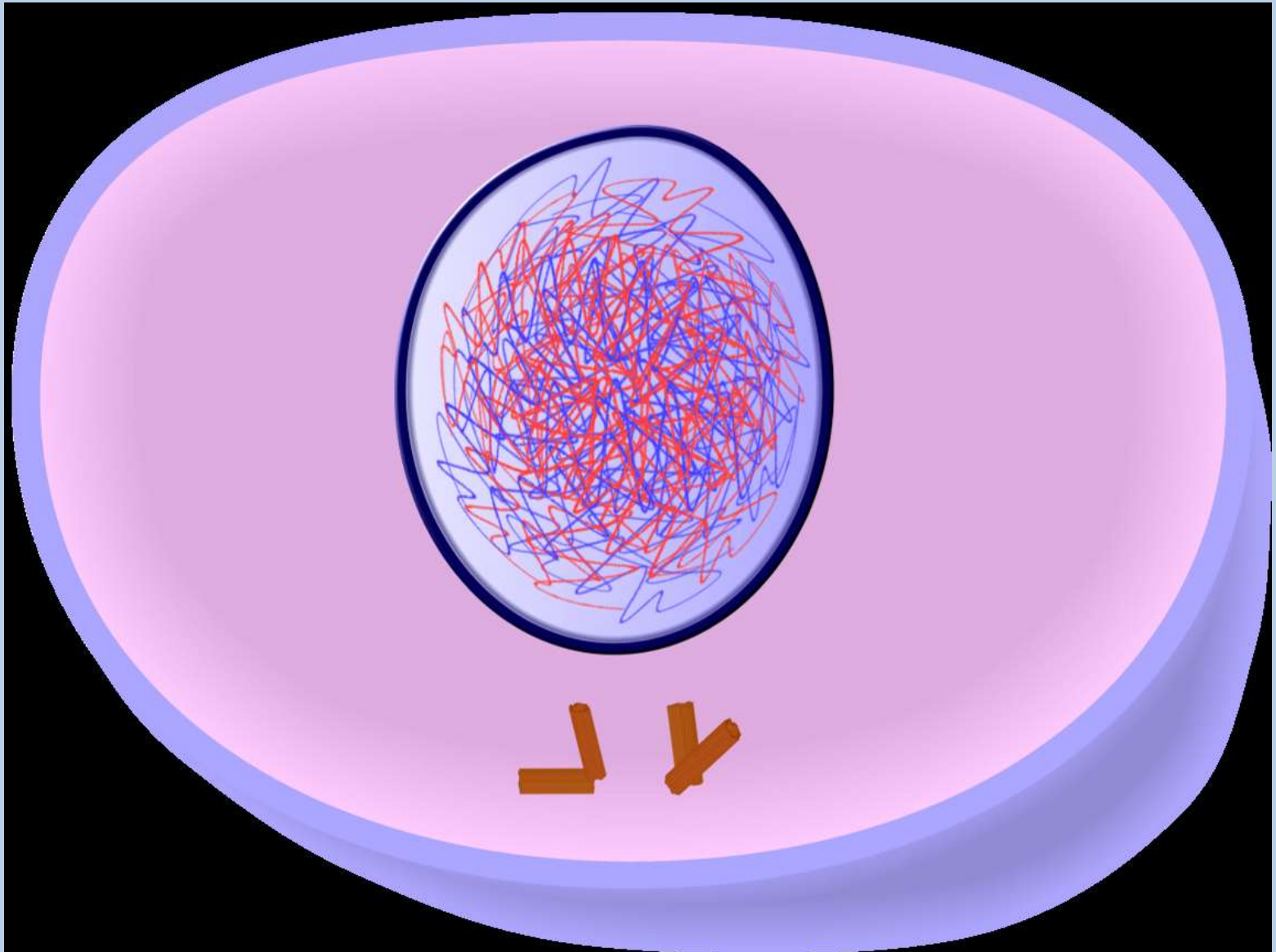


DOUBLING

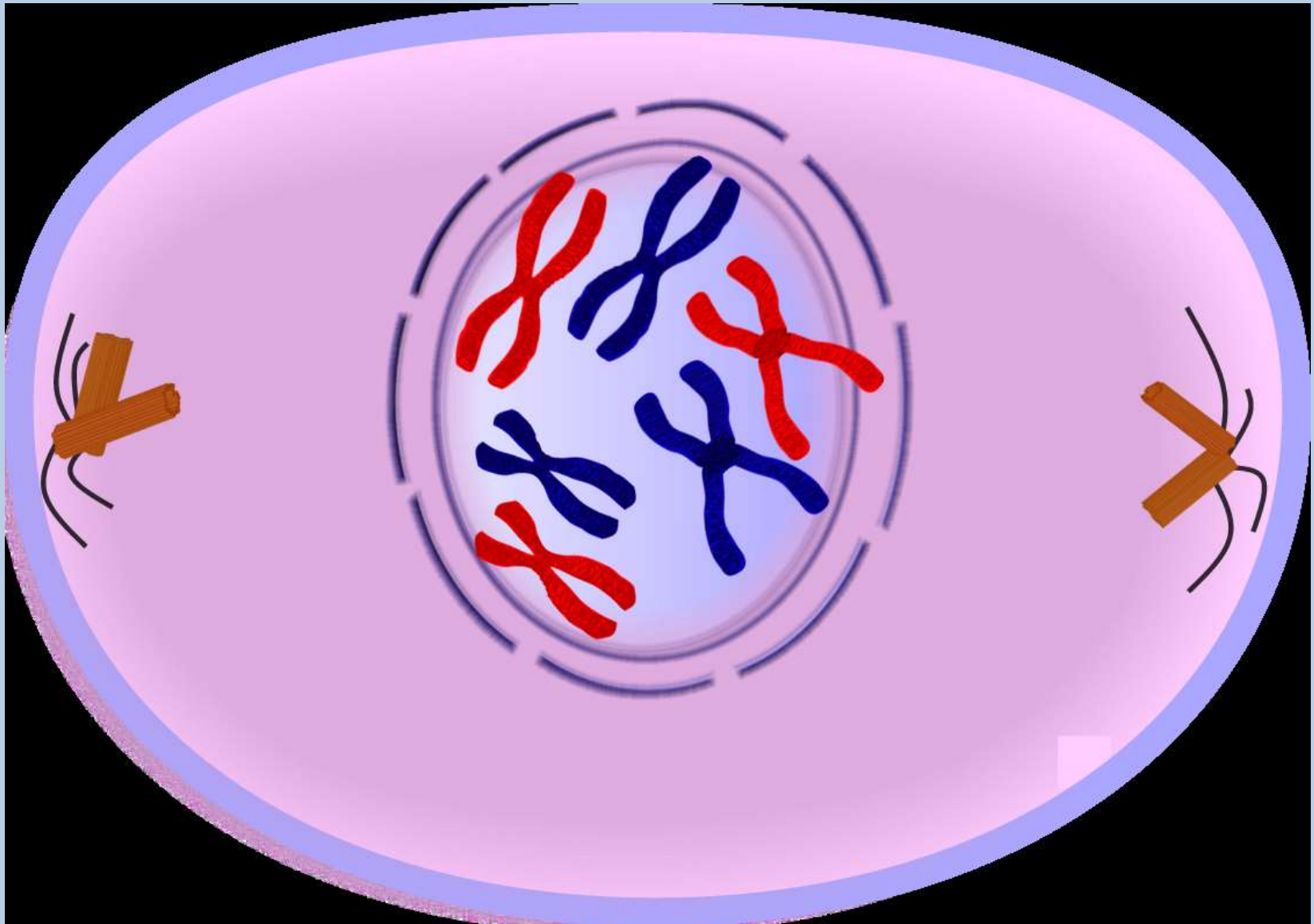
Mitosis

- In your groups review the phases of mitosis, including what happens in each

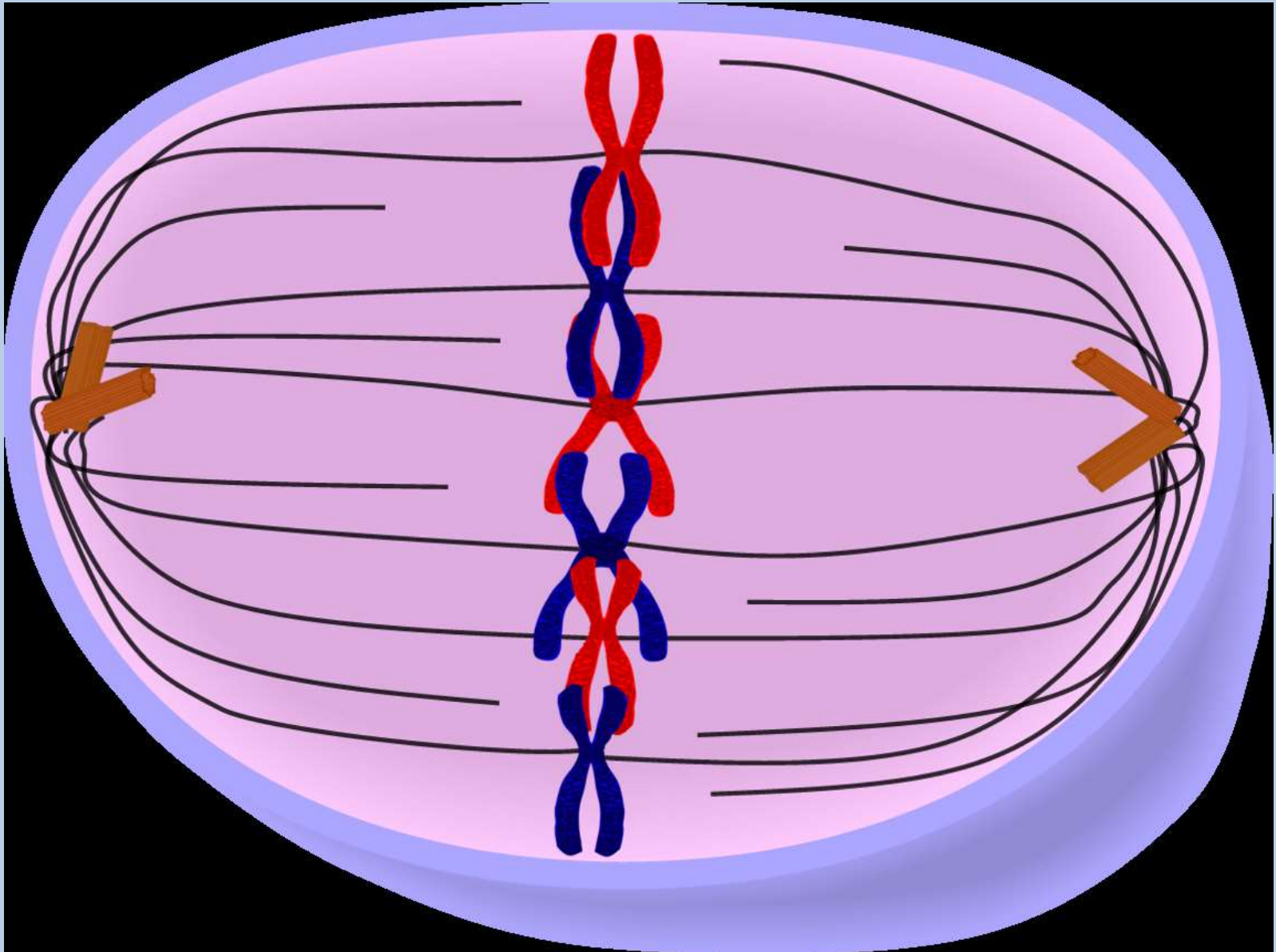
Interphase



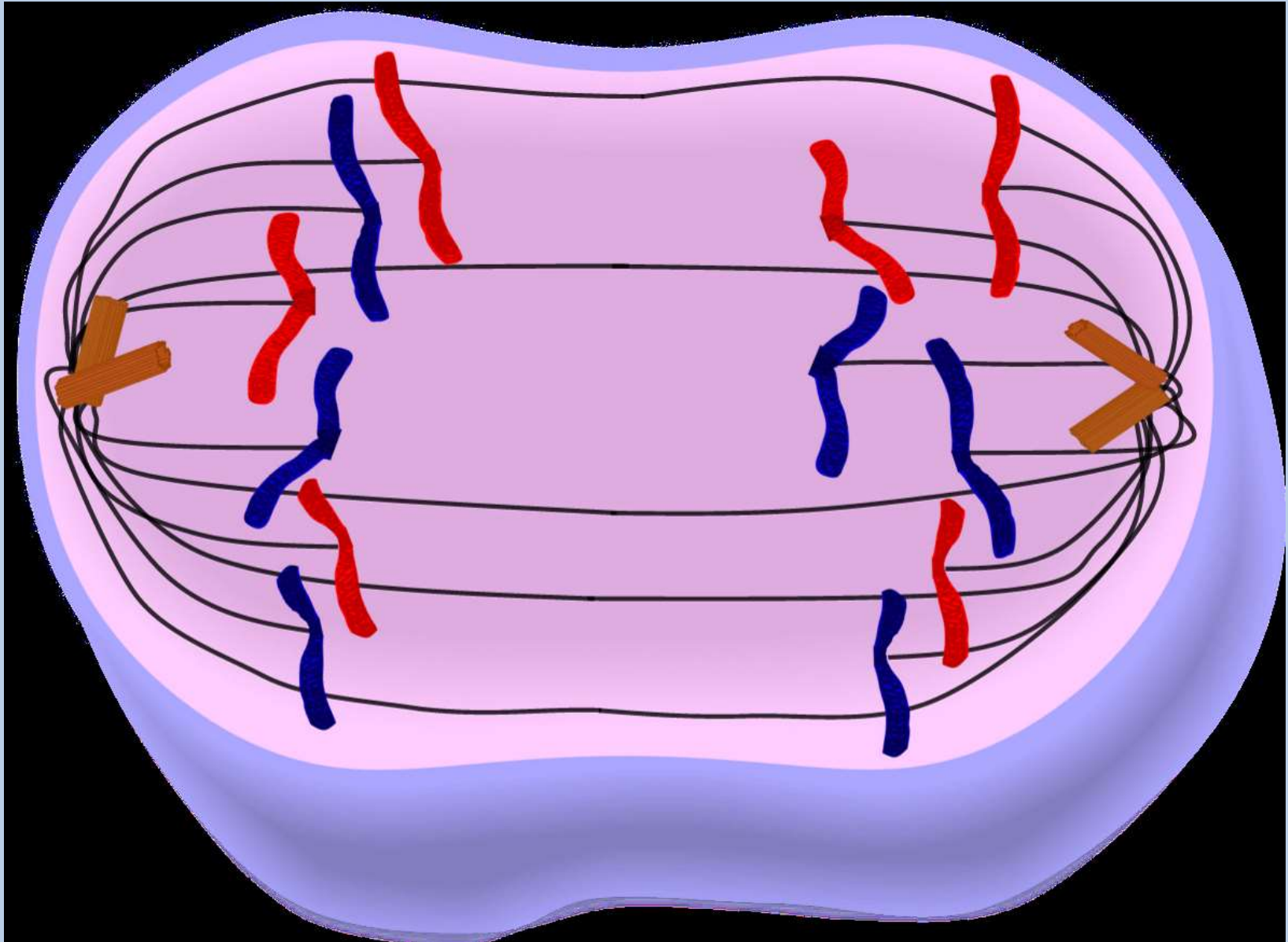
Mitosis - PROPHASE



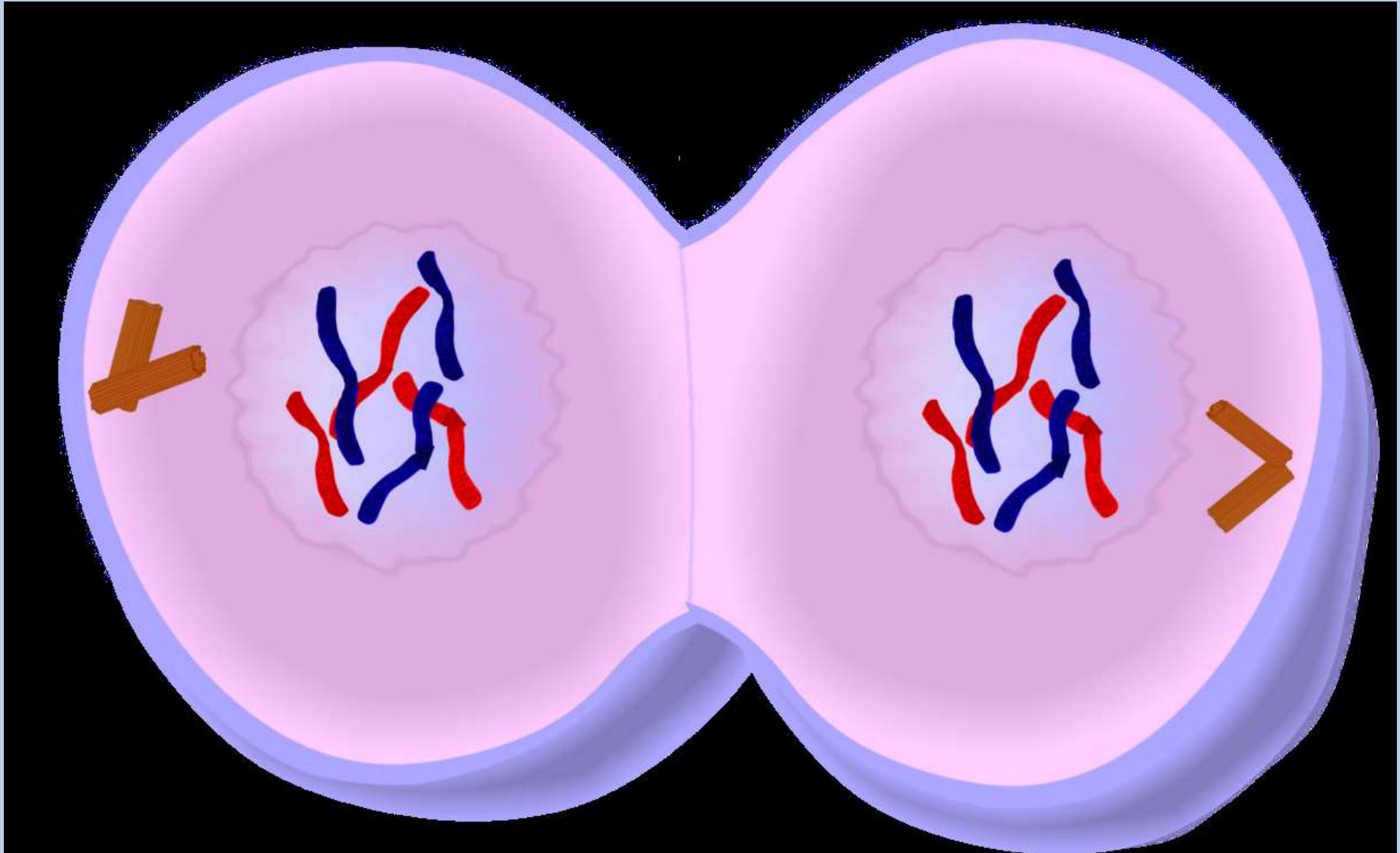
Mitosis - METAPHASE



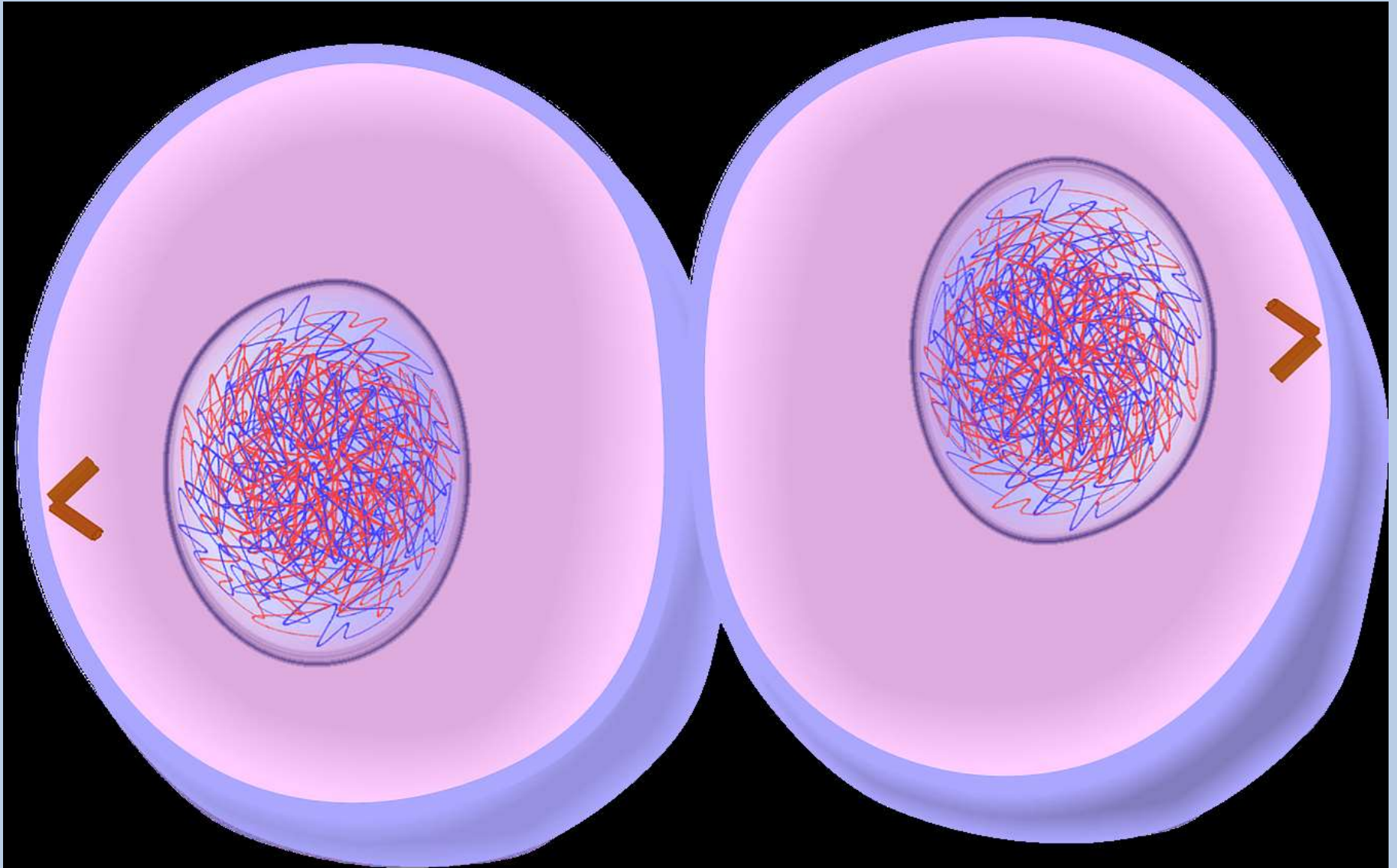
Mitosis - ANAPHASE



Mitosis - TELOPHASE



Cytokinesis



Mitosis

- **Why does mitosis happen?**

Mitosis

- **Why does mitosis happen?**
 - To heal
 - To grow
 - When a cell gets too big
- OR**
- **Asexual Reproduction** (binary fission)

Mitosis

- **What is the goal of all life?**

Mitosis

- **What is the goal of all life?**
 - **REPRODUCTION**

Meiosis

- On your desk there are three beakers, one is empty, and two have “chromosomes”
- **WHAT IS THE DIPLOID NUMBER OF THIS ORGANISM?**

Meiosis

- This “organism” has a *diploid* number of 4 chromosomes (2 pairs of 2)

Meiosis

- This “organism” has a *diploid* number of 4 chromosomes (2 pairs of 2)
- Use the mom and dad’s chromosomes to “make a baby”
- 1 minute

Meiosis

- **How many chromosomes does your baby have?**
 - **show a number with your fingers**

Meiosis

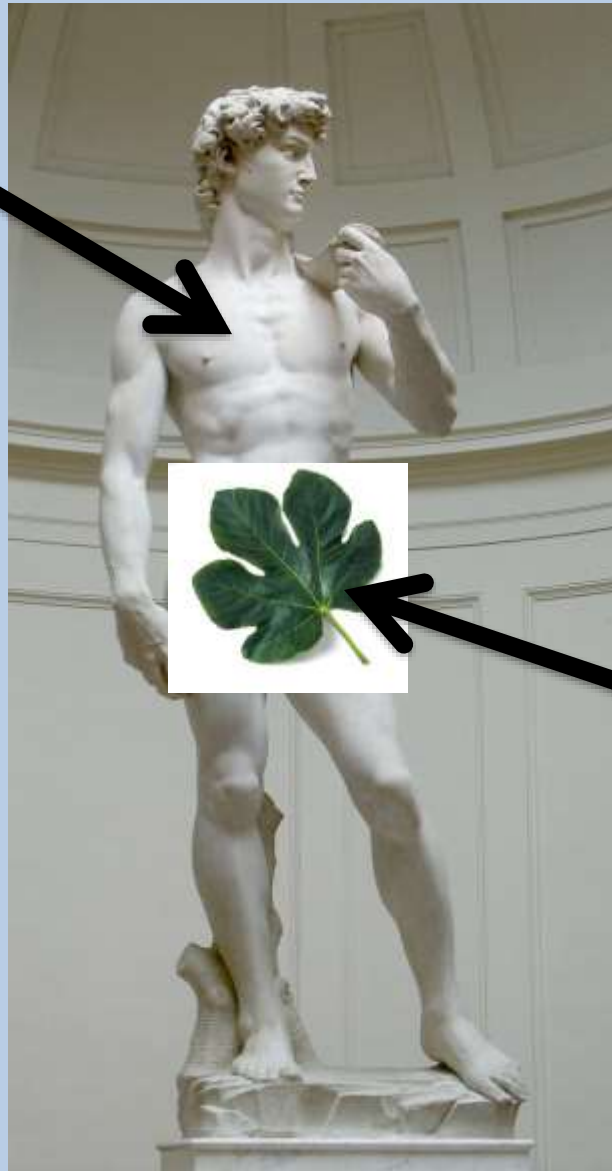
- **What did you have to do to the parent's chromosomes in order for the baby to have this number of chromosomes?**

Mitosis

- **Can mitosis create gametes/sex cells? Why or why not?**

Meiosis

Somatic Cells

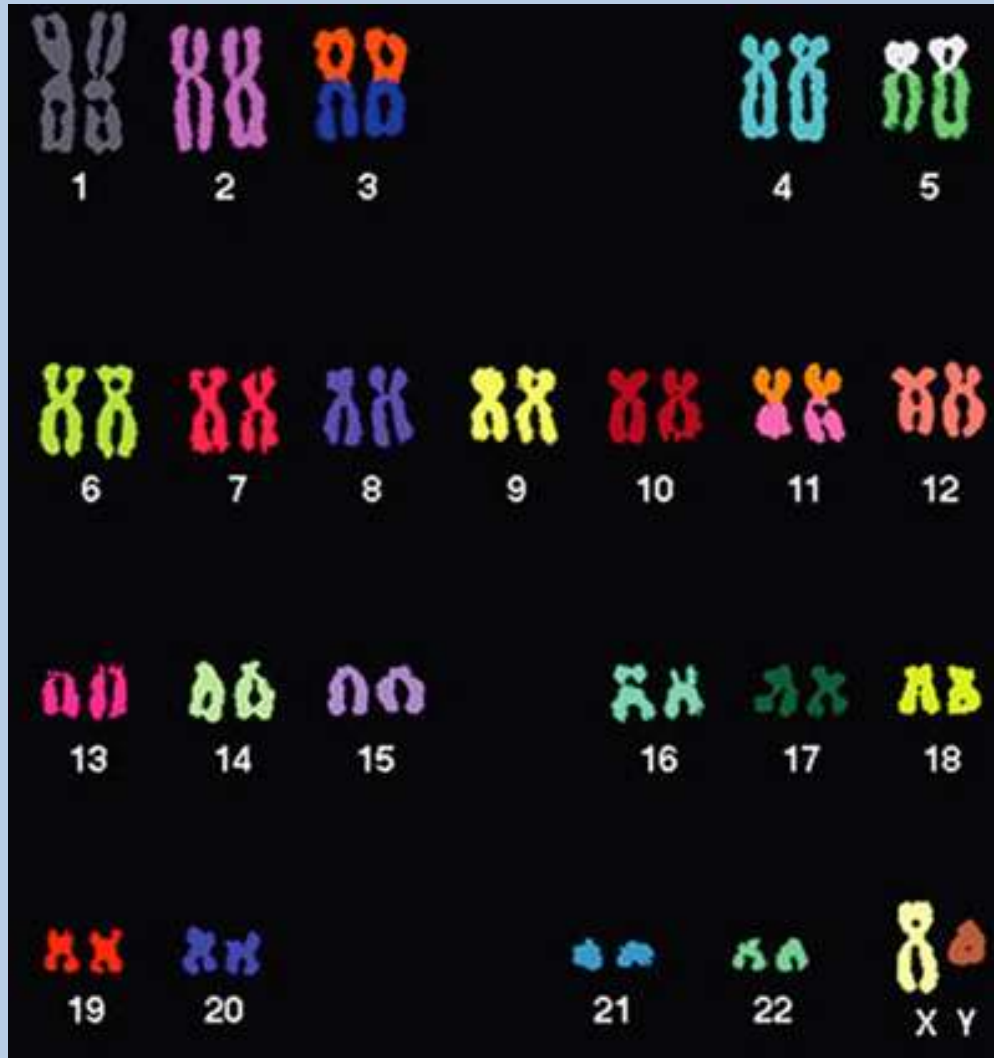


**Gamete "Sex"
Cells**

Meiosis



Meiosis



- How many chromosomes would each human egg or sperm cell have to have?

Meiosis vs Mitosis

Germ Cells $\xrightarrow{\text{Meiosis}}$ Haploid Cell $\xrightarrow{\text{Gametogenesis}}$ Gamete

Somatic Cells $\xrightarrow{\text{Mitosis}}$ Somatic Cells

Meiosis

- Mitosis makes identical, diploid daughter (*somatic*) cells. In order to make *gametes* there is another process to make *haploid* cells.

Meiosis

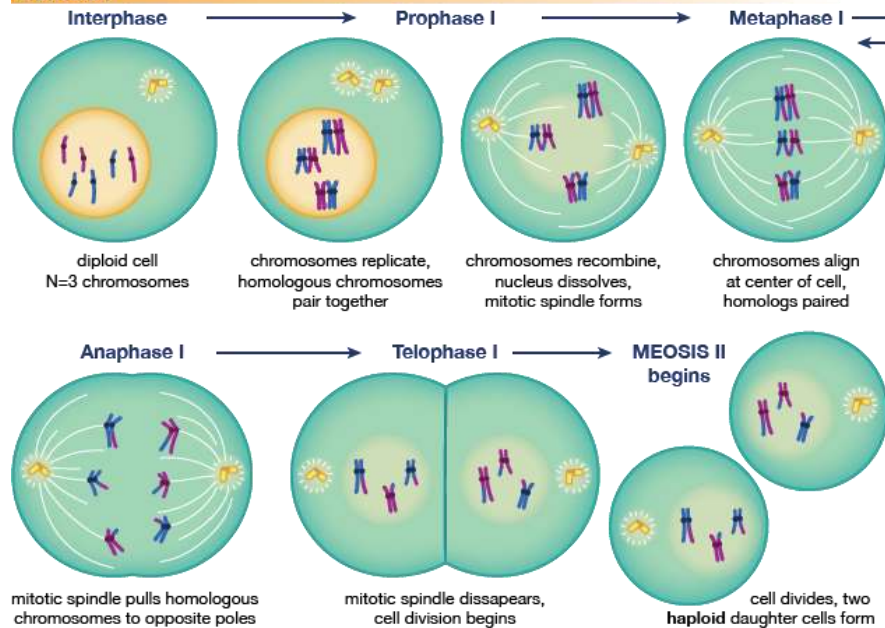
- Cut the pictures out, and arrange them in an order that makes sense to you on **page 56**
- ***REMEMBER: the goal is to use diploid cells to make haploid cells***

Mitosis

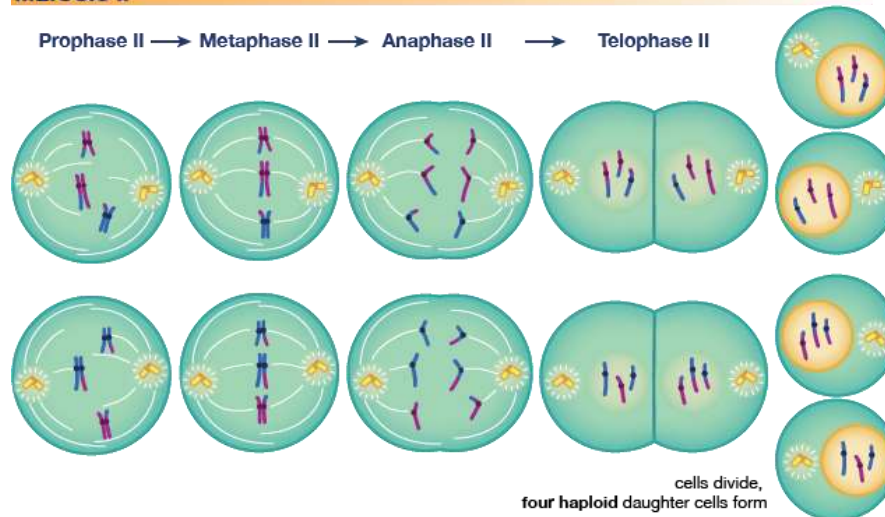
- Cut the pictures out, and arrange them in an order that makes sense to you on **page 56**
- *You do NOT need to tape them down immediately*

Meiosis

MEIOSIS I

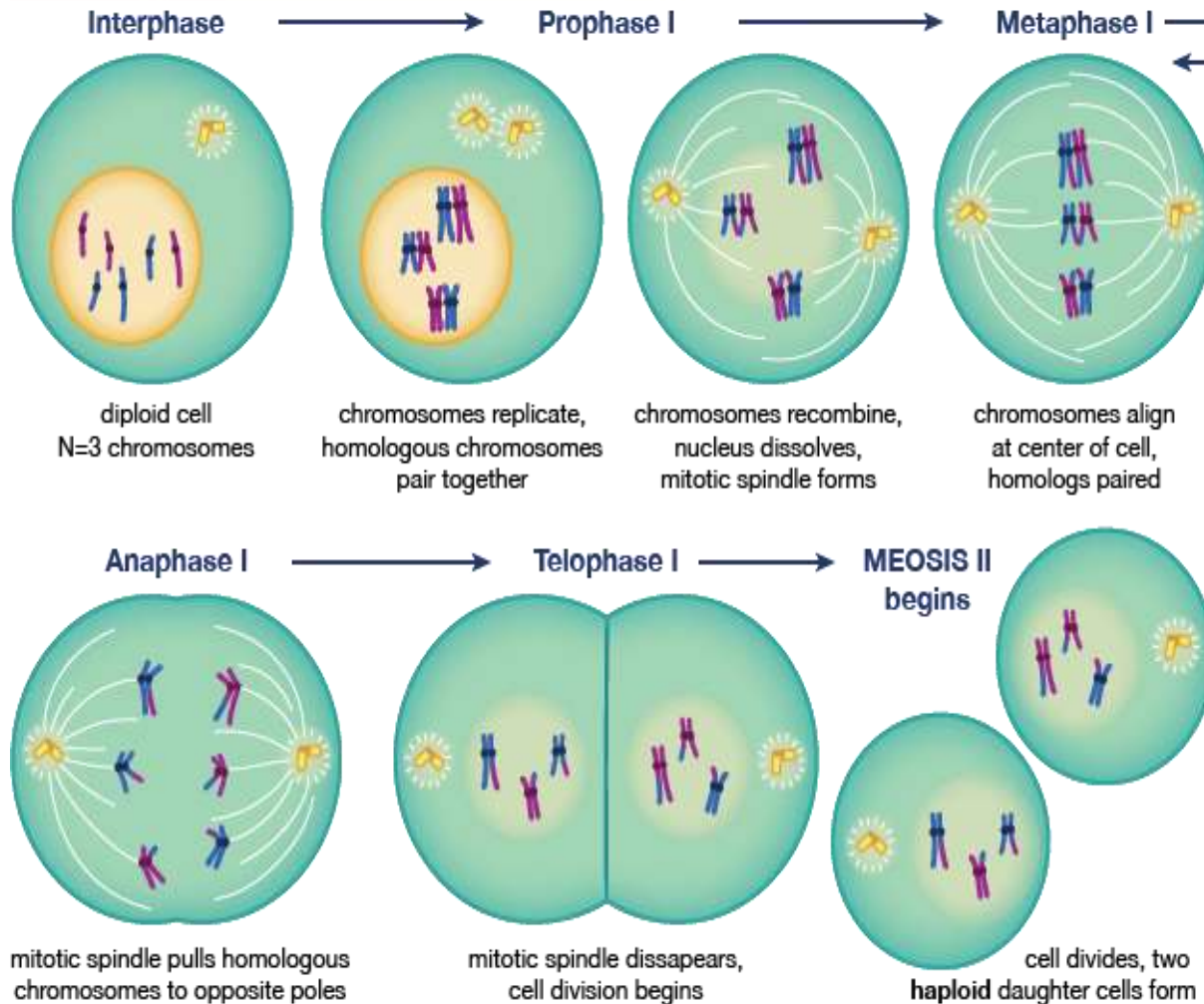


MEIOSIS II



Meiosis I

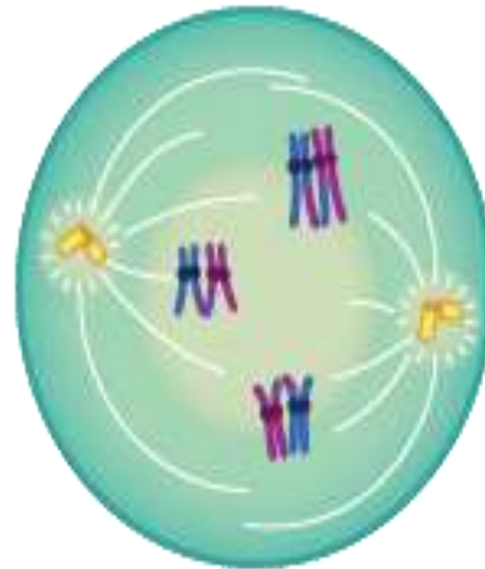
MEIOSIS I



PROPHASE I

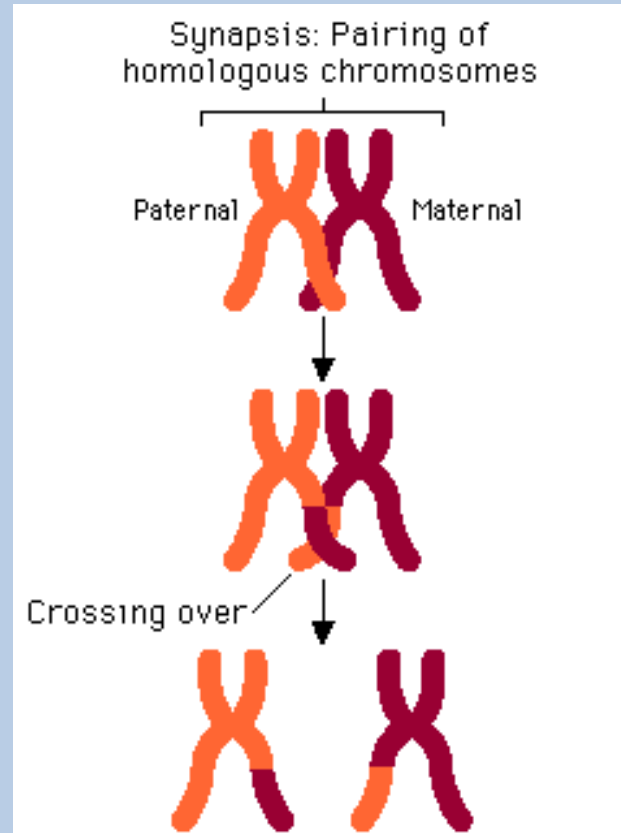


chromosomes replicate,
homologous chromosomes
pair together



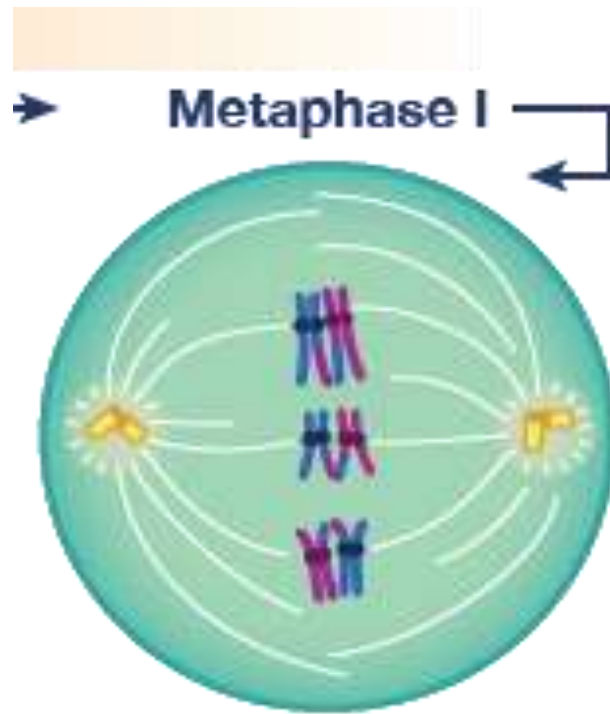
chromosomes recombine,
nucleus dissolves,
mitotic spindle forms

Cross-over



- https://www.youtube.com/watch?v=5x_Rp1mwotQ

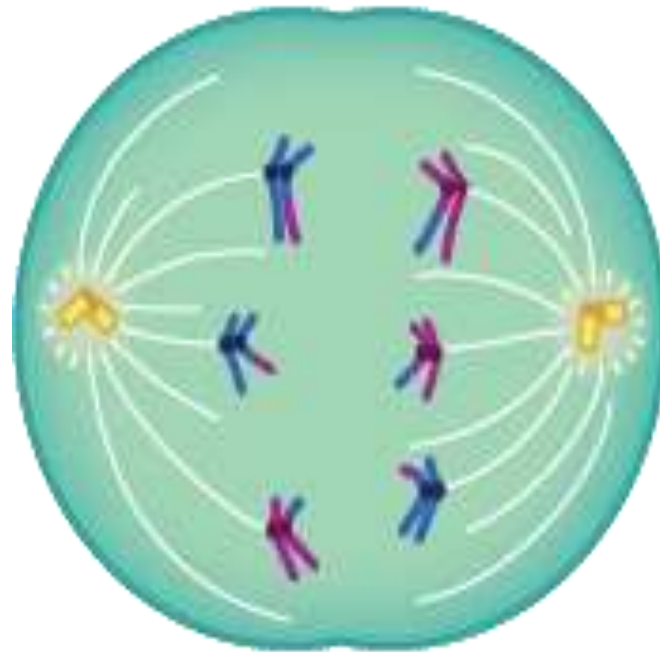
METAPHASE I



chromosomes align
at center of cell,
homologs paired

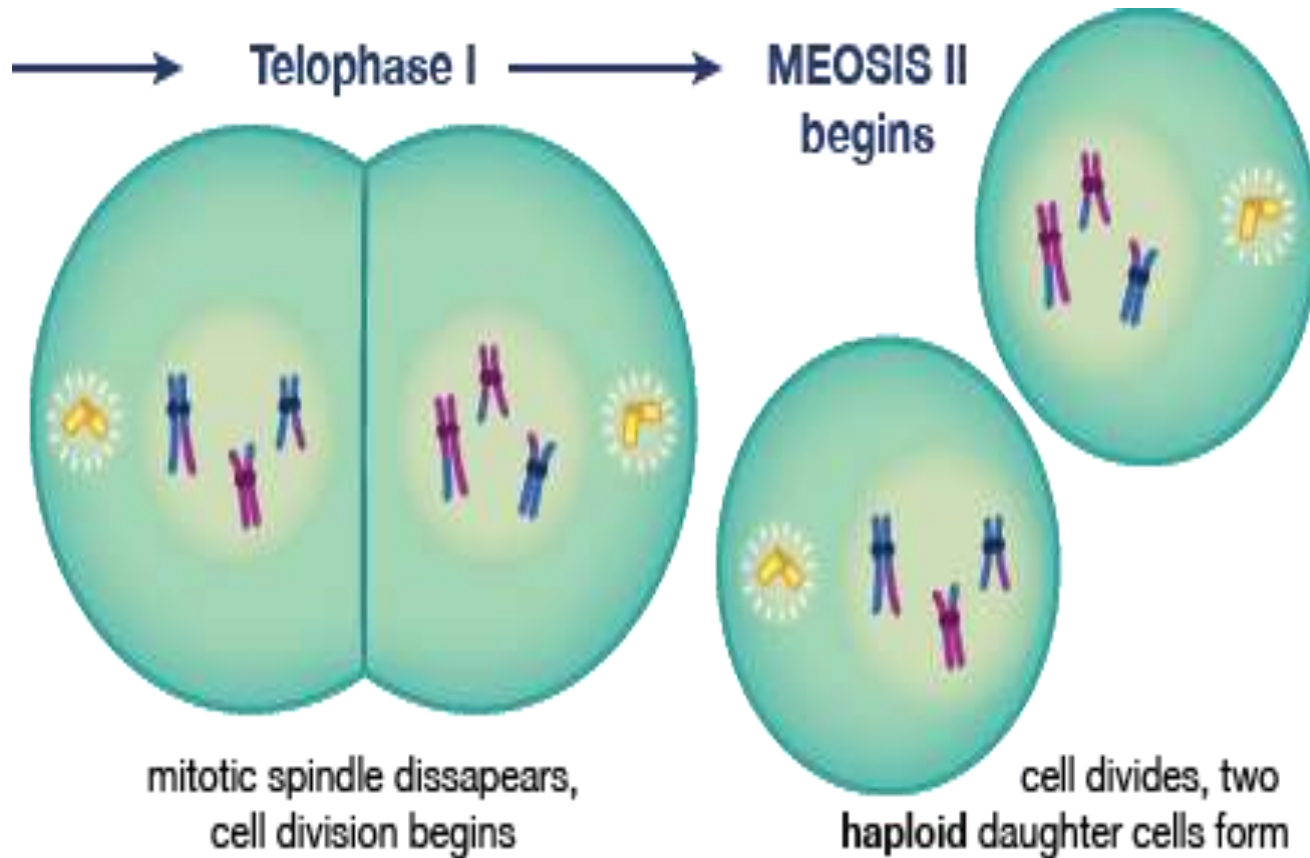
ANAPHASE I

Anaphase I



mitotic spindle pulls homologous chromosomes to opposite poles

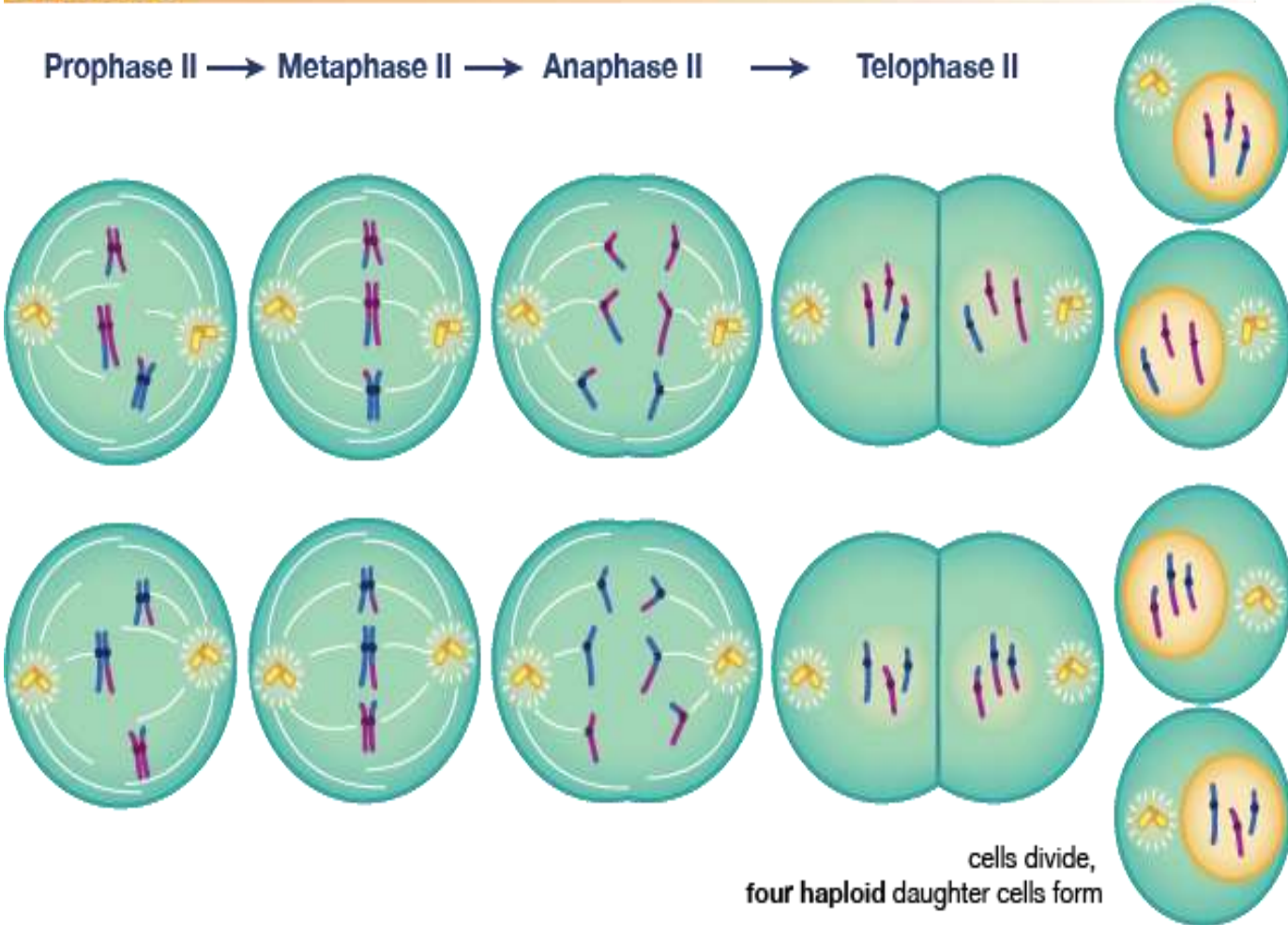
TELOPHASE I



Meiosis II

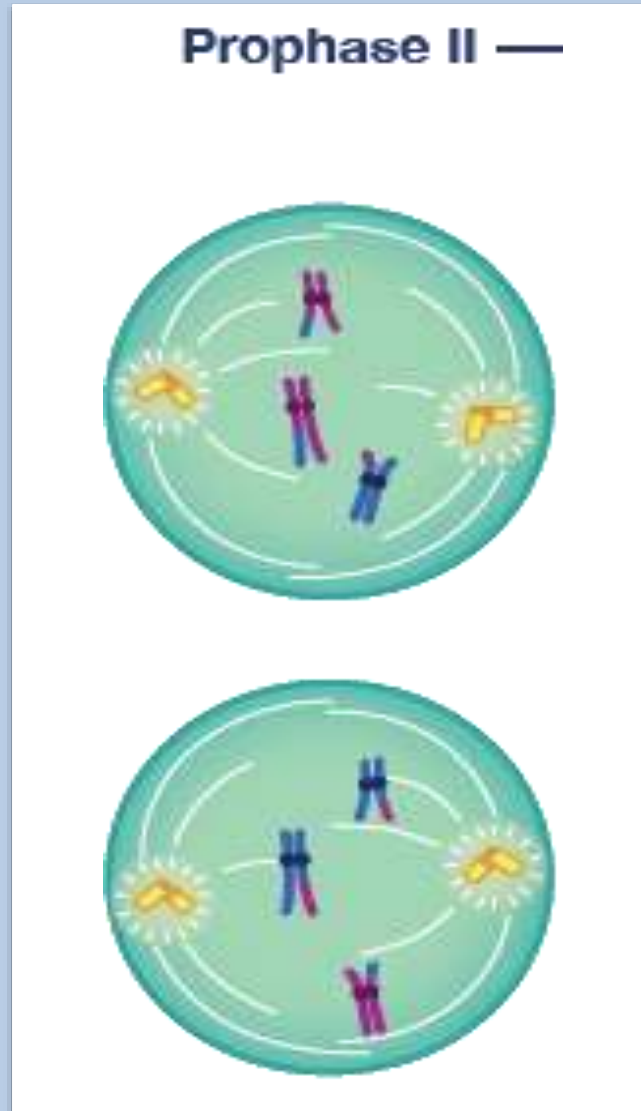
MEIOSIS II

Prophase II → Metaphase II → Anaphase II → Telophase II



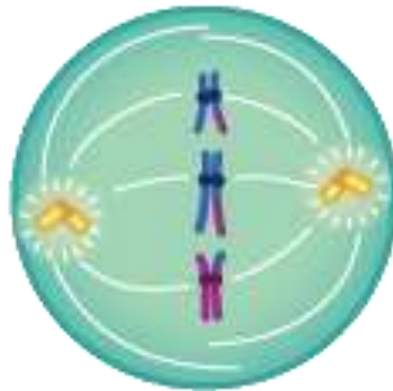
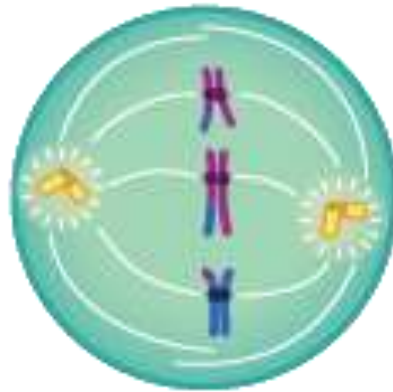
cells divide,
four haploid daughter cells form

PROPHASE II



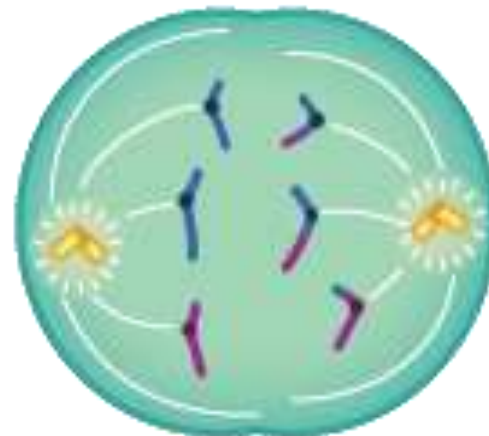
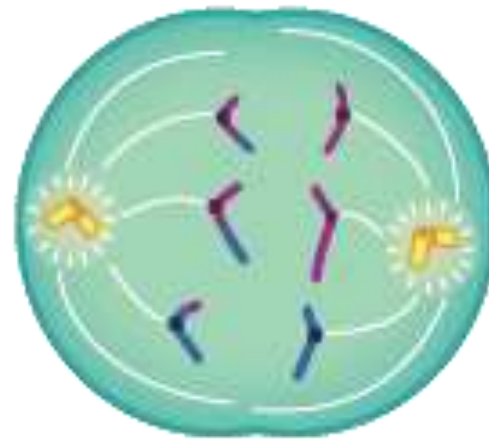
METAPHASE II

→ Metaphase II —

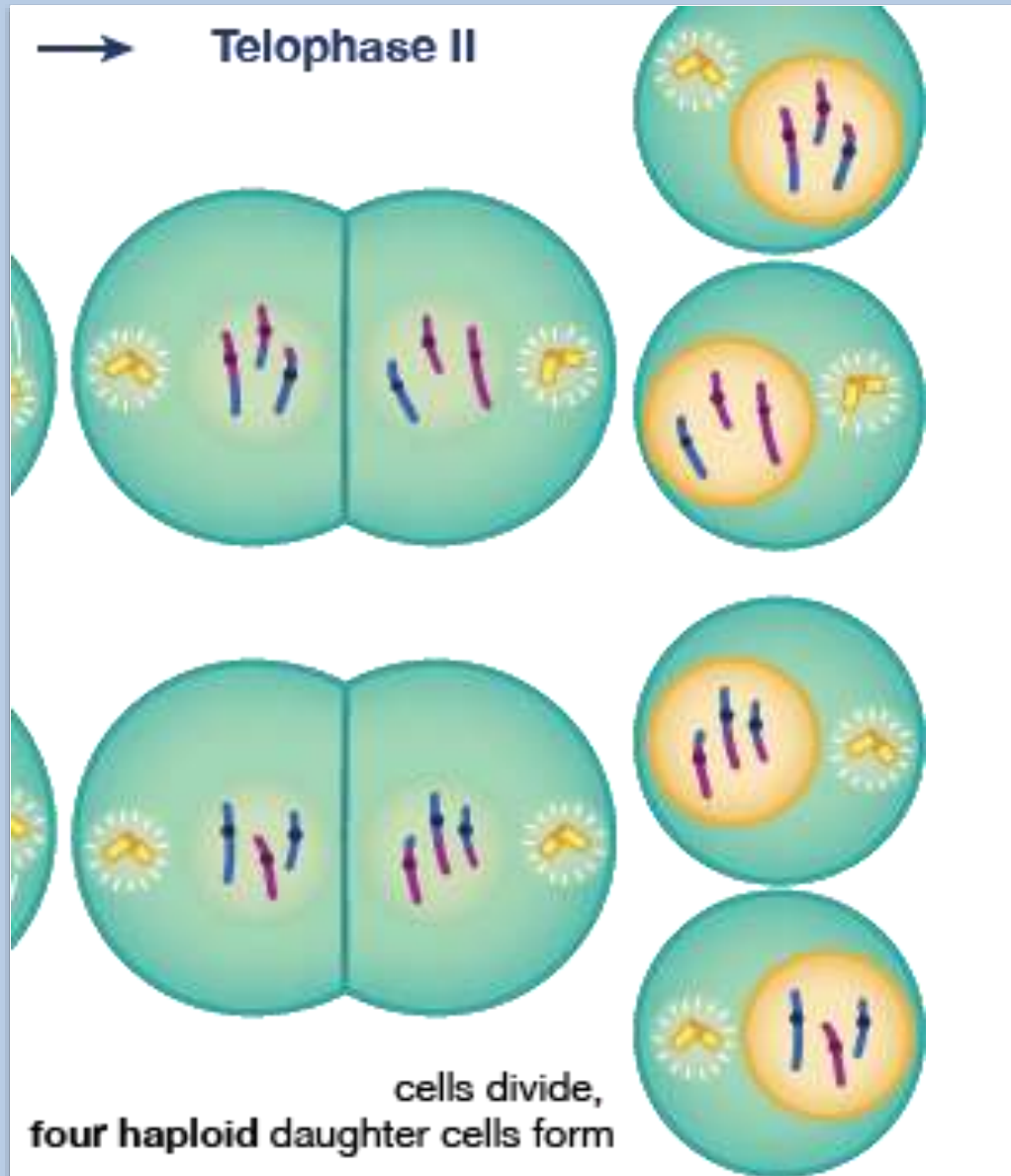


ANAPHASE II

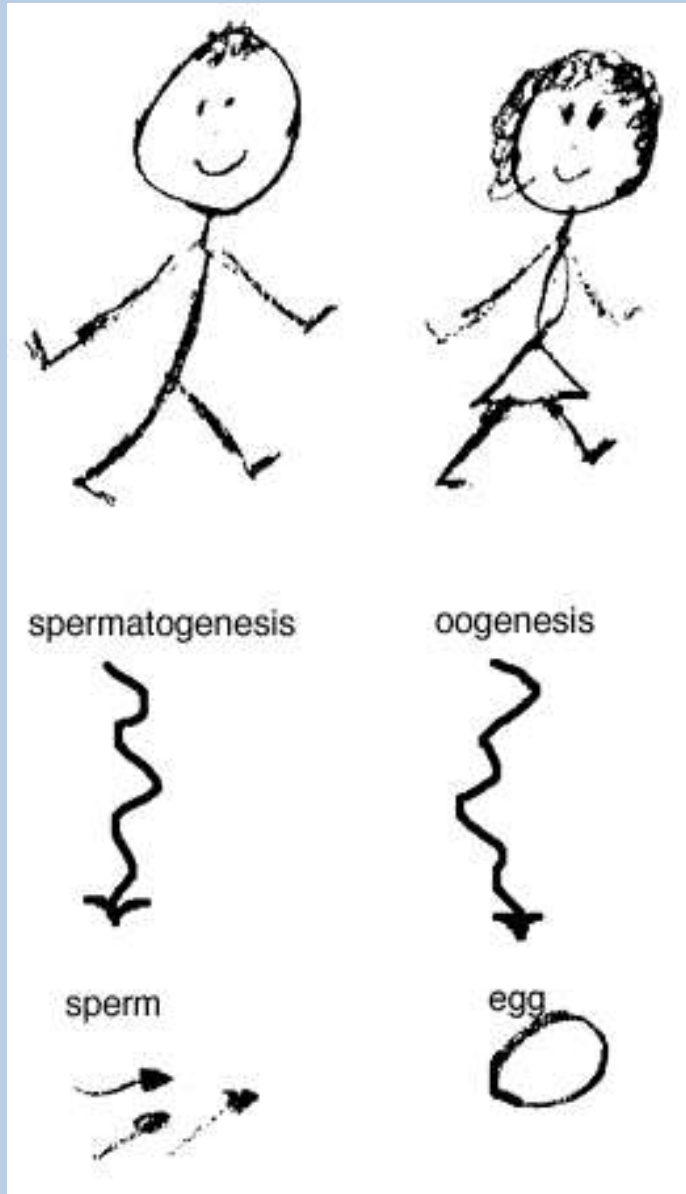
→ Anaphase II -



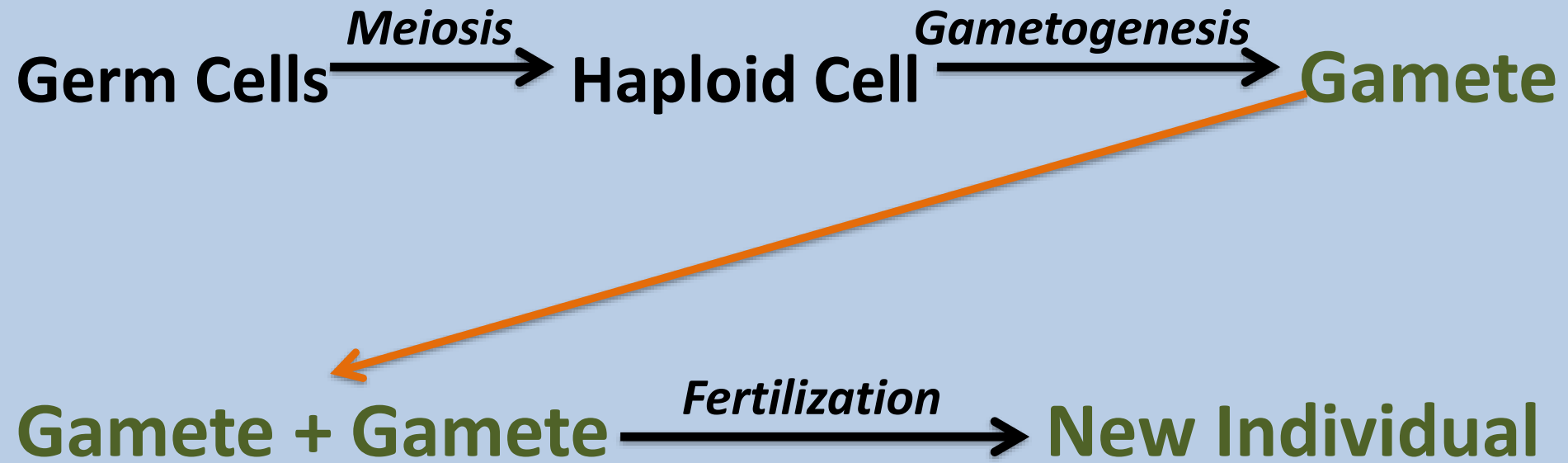
TELOPHASE II



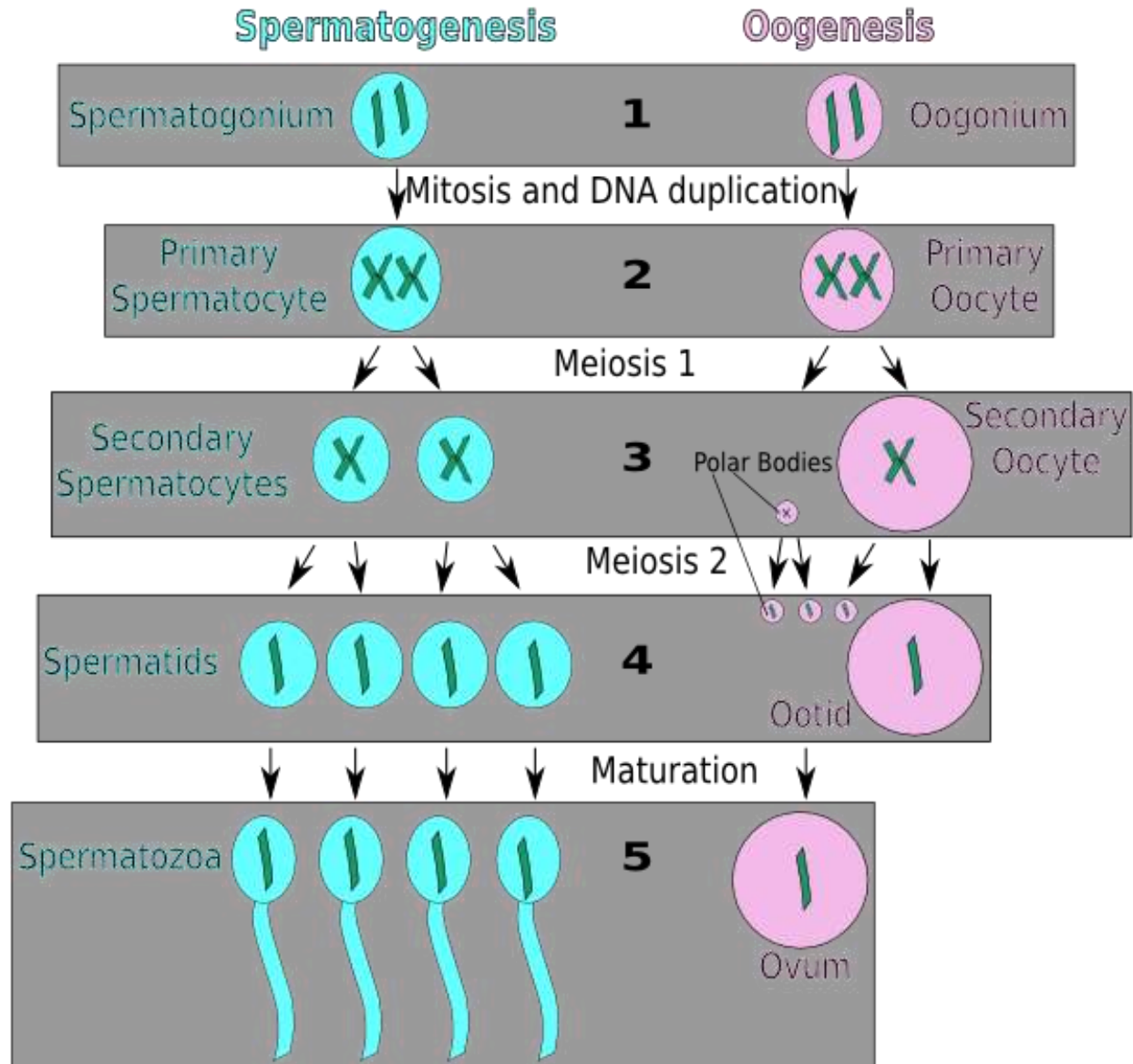
Gametogenesis: creation of sex cells



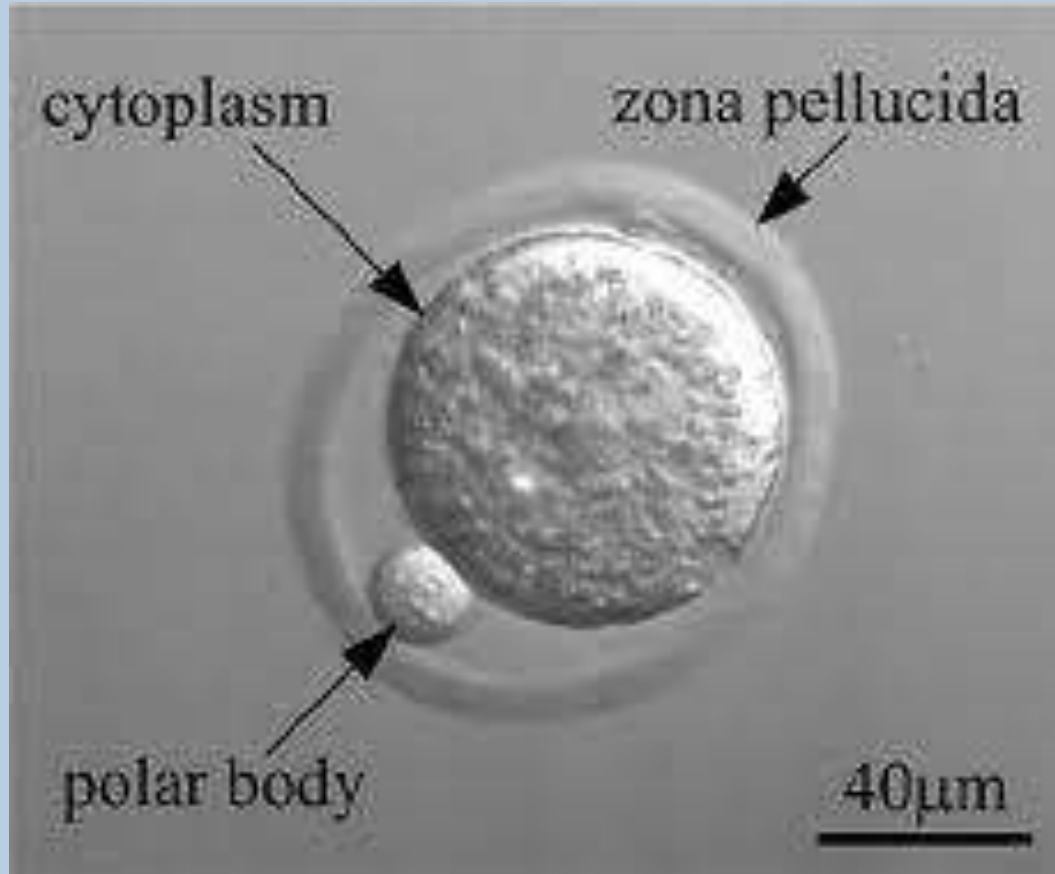
Sexual Reproduction



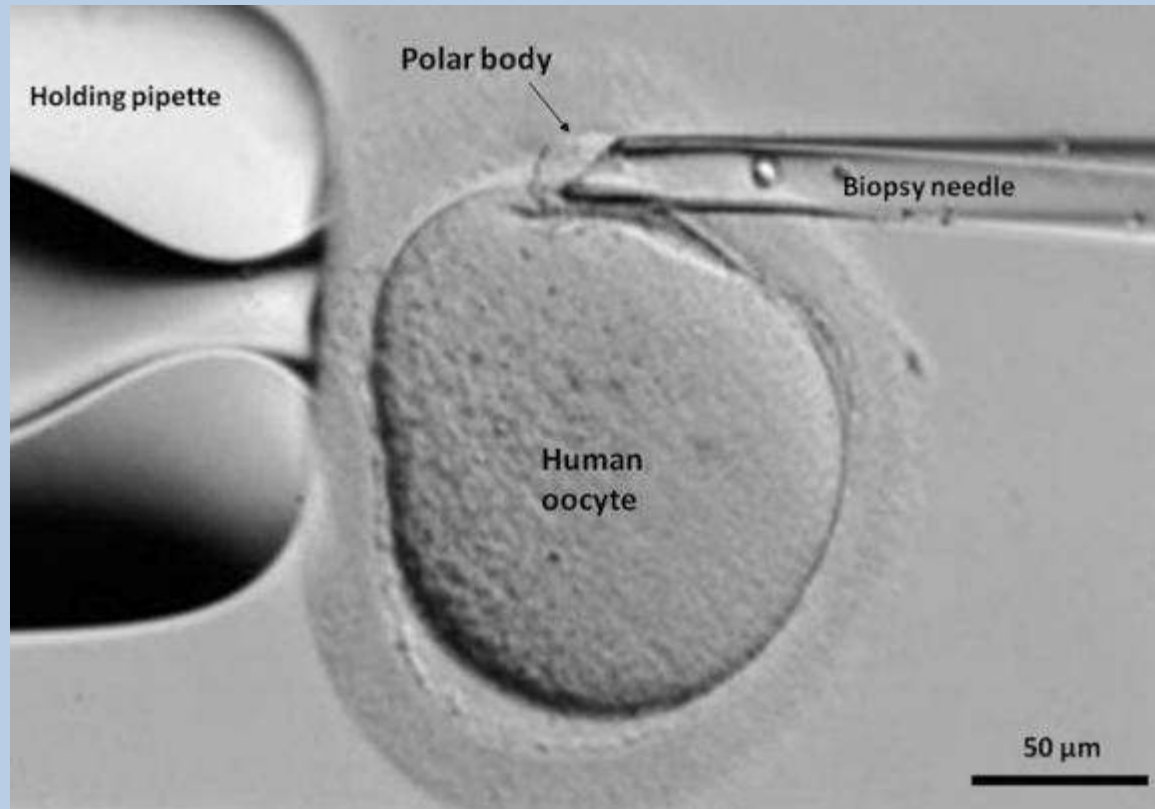
Product of Meiosis



Product of Meiosis



Product of Meiosis



Meiosis

- <https://www.youtube.com/watch?v=VzDMG7ke69g>

Meiosis

- **We are working on unit objectives 9 and 10:**
 - **Cut out the phases of meiosis and tape/glue them in order in your notebook on **page 56****