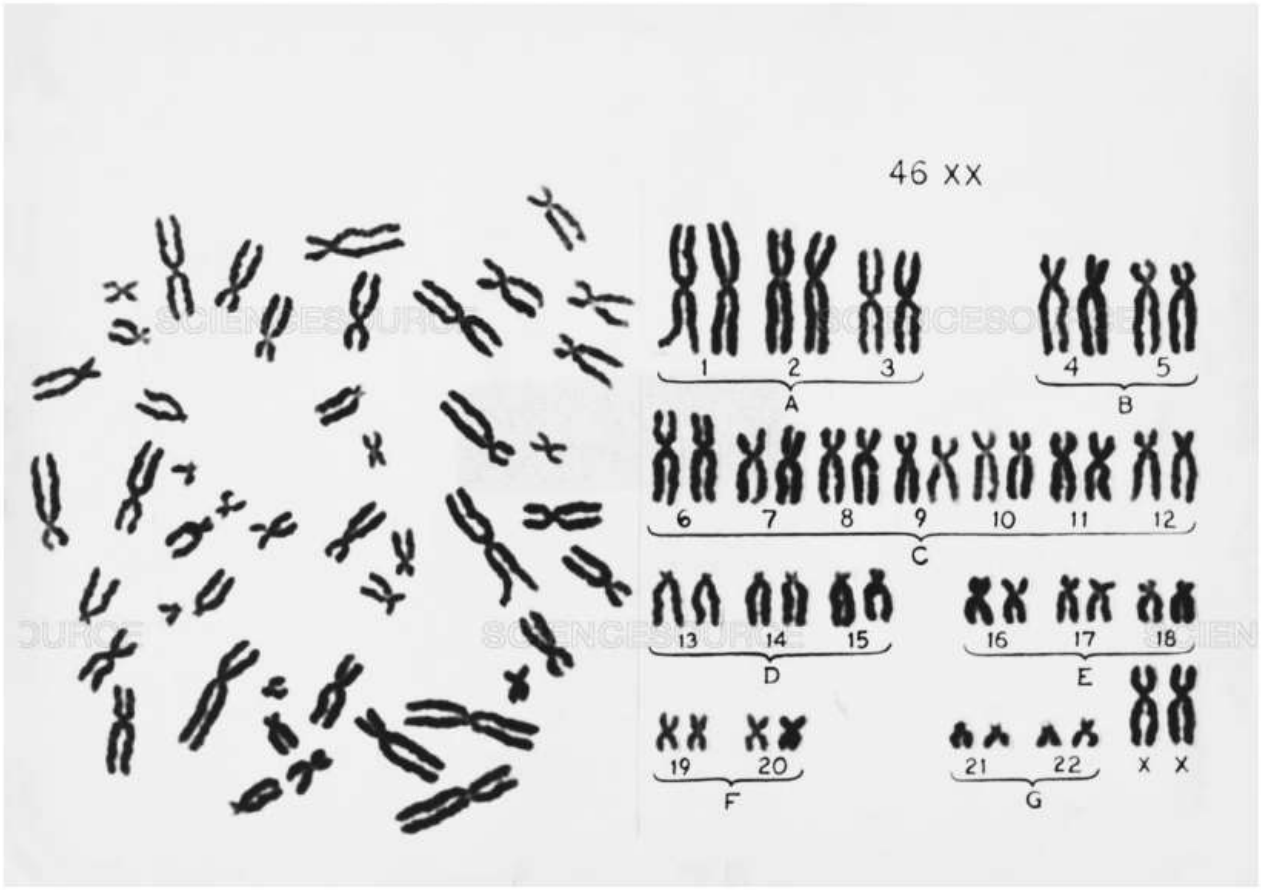
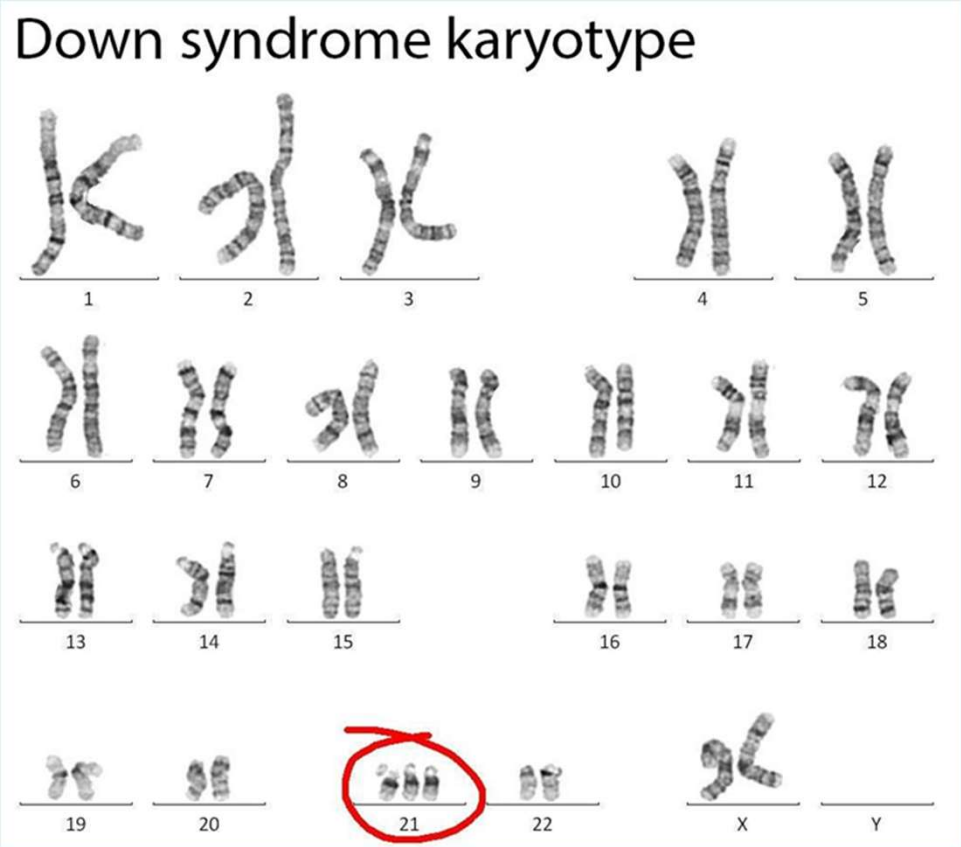
Ponovimo

KARIOGRAM

Fotografija razvrščenih kromosomov v metafazi



KARIOTIP

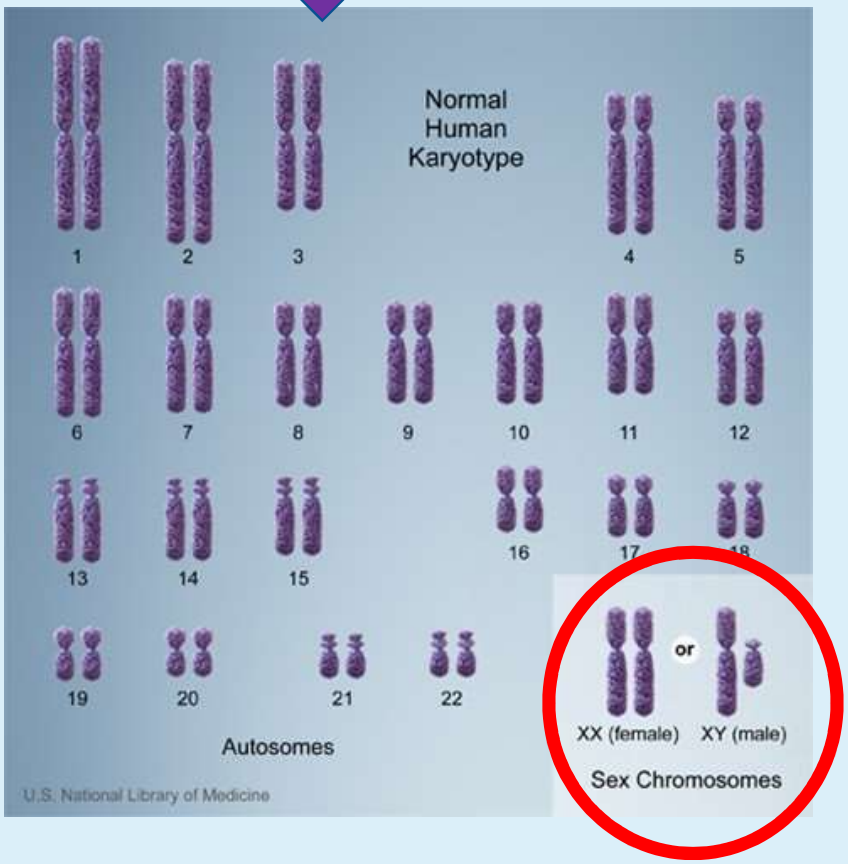


Ali je na kariotipu
23 parov kromosomov?
Preštej jih.

Število kromosomov in njihov izgled
DAWNOV sindrom

Avtosomni in spolni kromosomi

- Avtosomni je vsak kromosom, ki ni spolni kromosom. Običajno so avtosomi parni (2n). Človek ima 22 parov avtosomov v telesnih celicah, v spolnih celicah pa 22 avtosomov.
- Kromosoma X in Y sta spolna kromosoma.

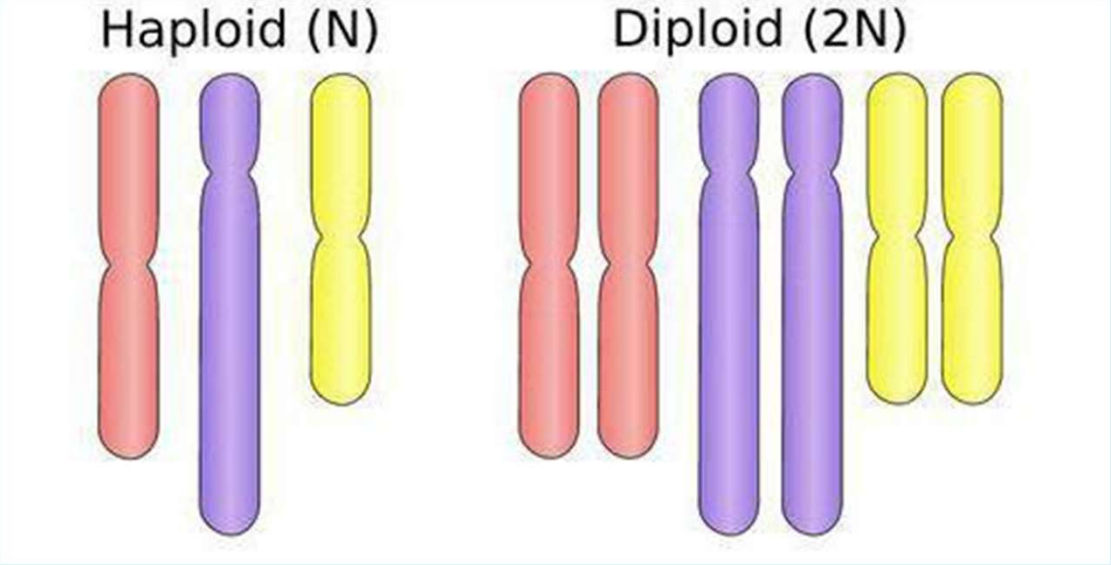


Somatska (telesna) in spolna celica

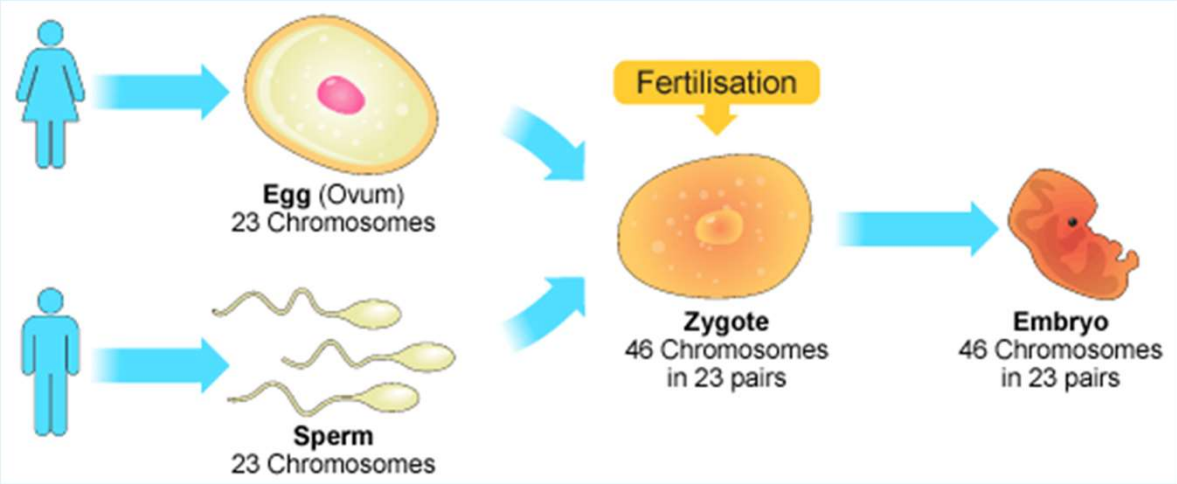
- Telesne celice so vse celice, ki niso spolne celice. Imajo dvojno garnituro kromosomov (23 parov).
- Spolne celice so jajčna celica pri ženskem spolu in spermalna celica pri moškem spolu. Imajo enojno garnituro kromosomov (23 kromosomov).
- Zakaj imajo spolne celice enojno garnituro kromosomov?
- Z **MEJOZO** dobimo spolne celice.

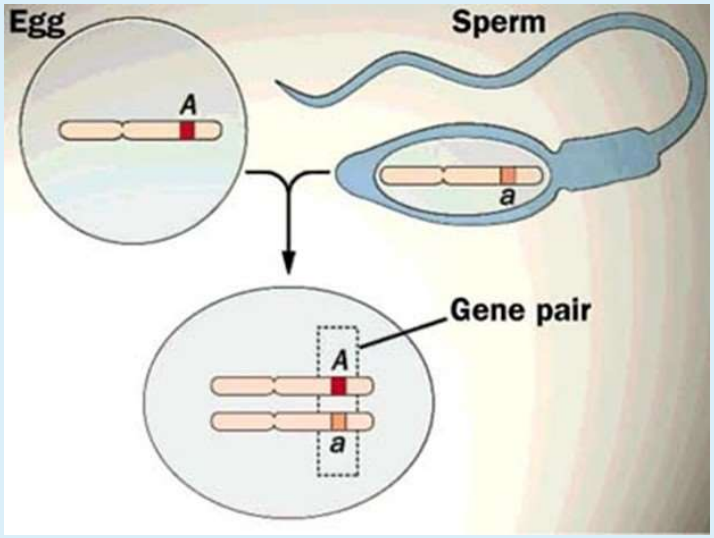
Haploidna (n) in diploidna (2n) celica

- Haploidna celica ima eno samo garnituro kromosomov (23).
- Katera je že taka celica pri človeku? Jajčna in spermalna.
- Diploidna celica ima dve garnituri kormosomov (23 parov).
- Pri človeku je to?



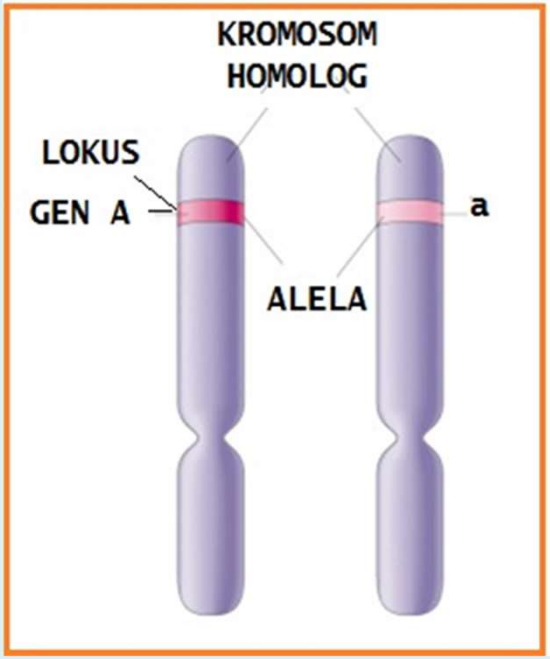
Zigota (2n)

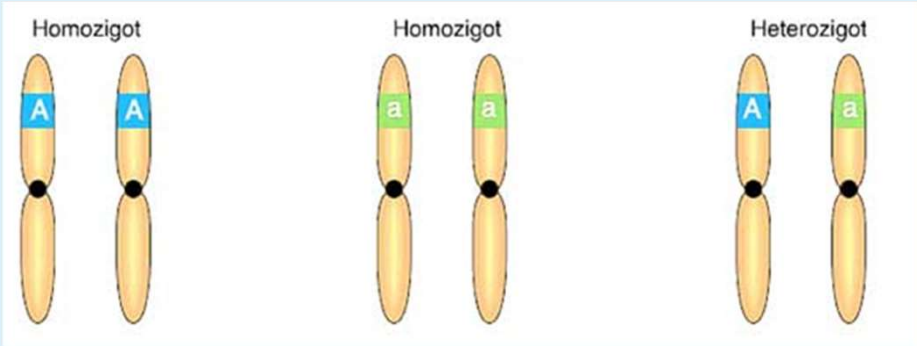

Fertilisation
Egg (Ovum)
23 Chromosomes
Sperm
23 Chromosomes
Zygote
46 Chromosomes
in 23 pairs
Embryo
46 Chromosomes
in 23 pairs


Egg
Sperm
A
a
Gene pair
A
a

Homologna kromosoma

- enaka po velikosti in obliki (lega centromera)
- geni za iste dedne lastnosti so na istih mestih = genski lokusi
- oblike istega gena na homolognih kromosomih = aleli
- enaki aleli: organizem je za to lastnost homozigoten
- različni aleli: organizem je za to lastnost heterozigoten



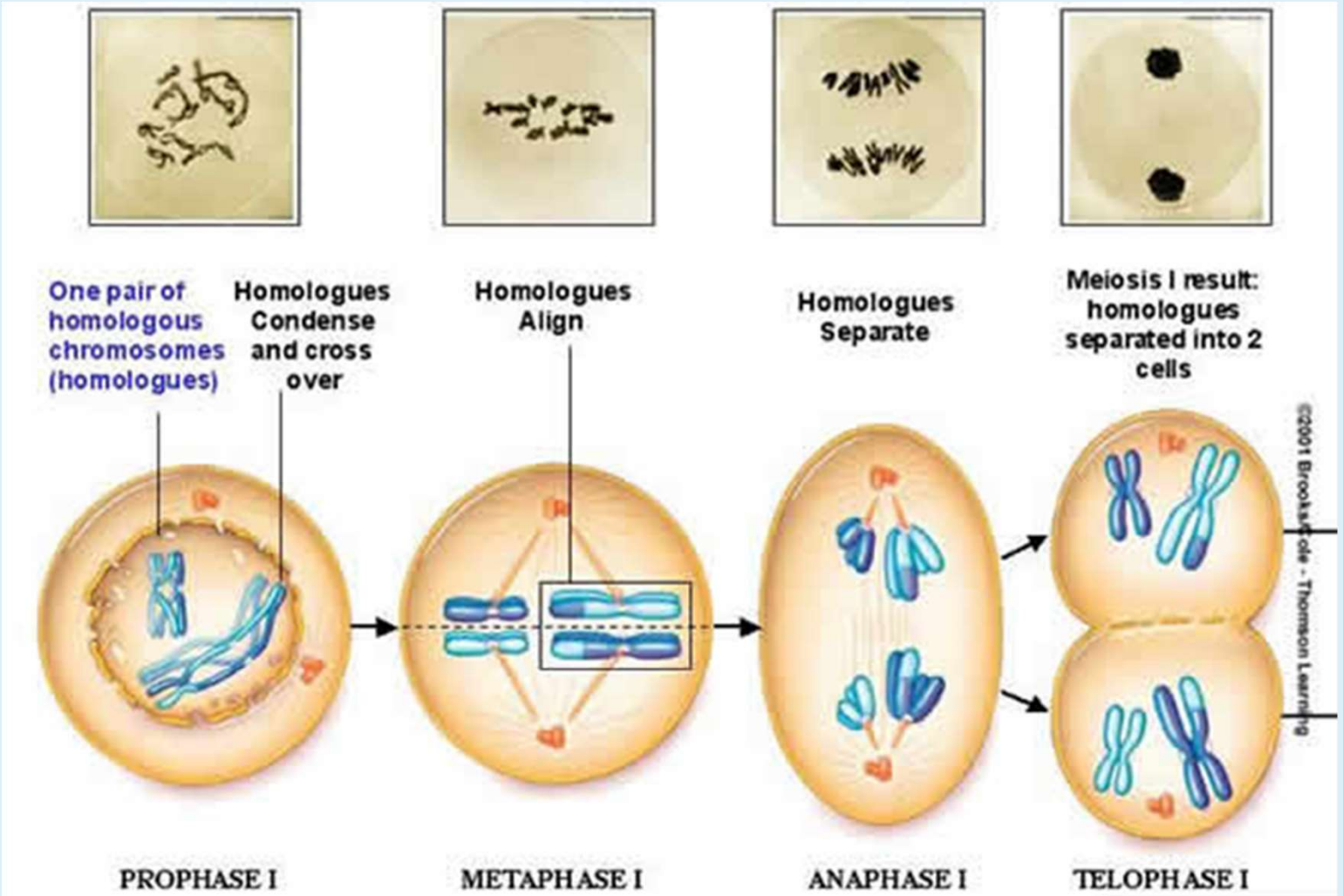


Mejoza

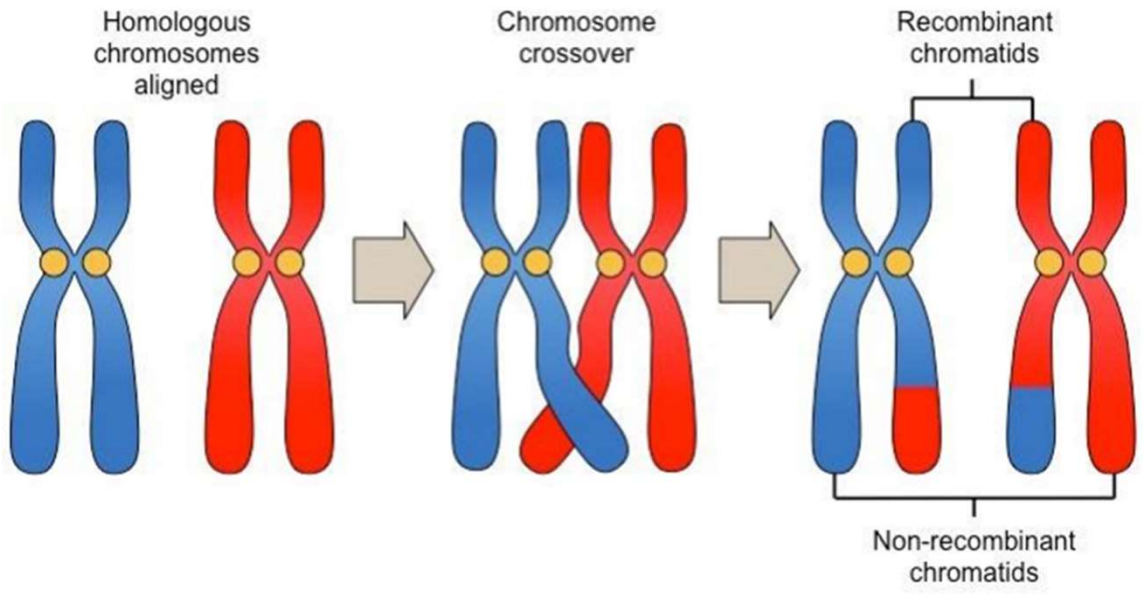
- **Mejoza I** (redukcijska delitev)
- **Mejoza II** (mitoza)

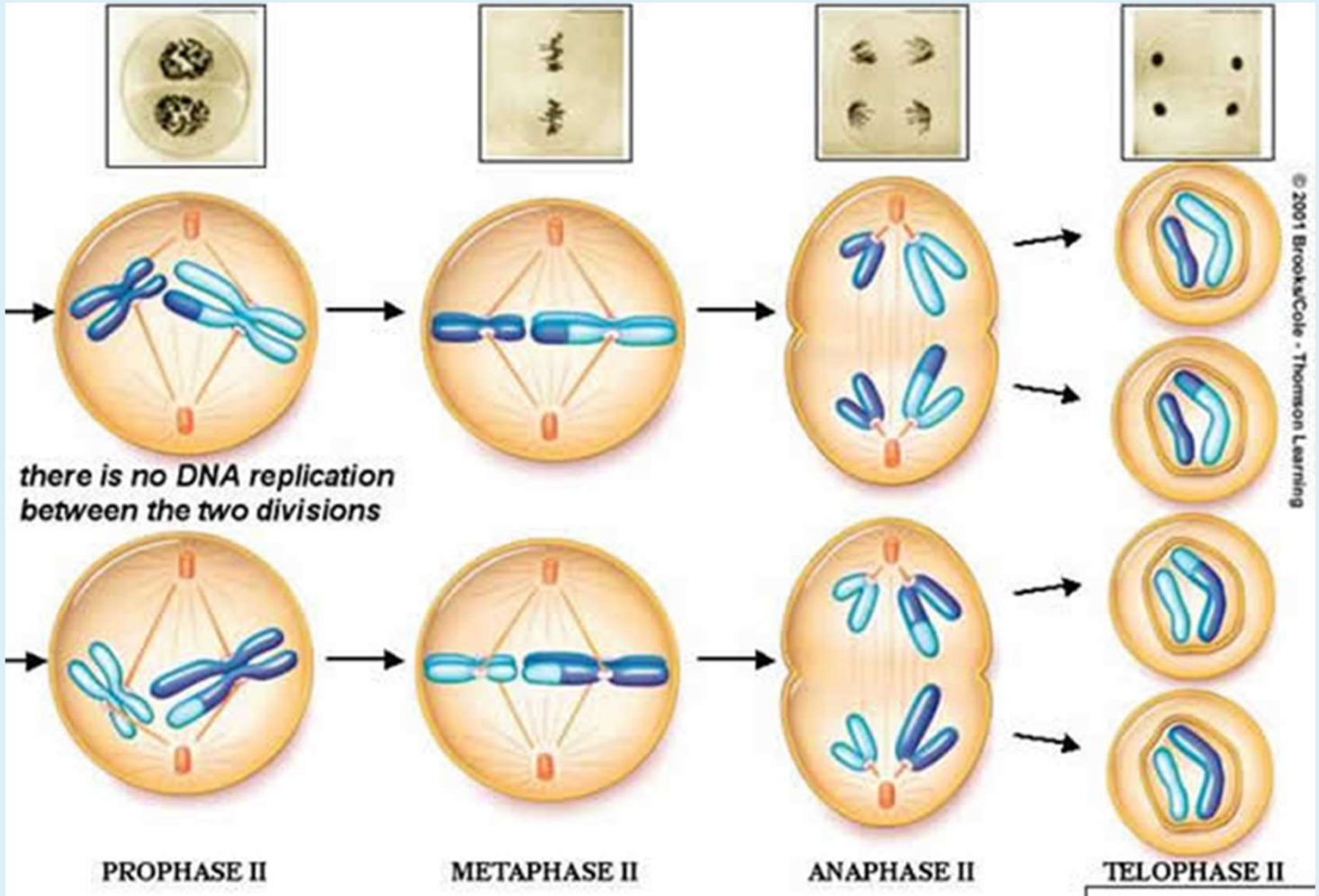
- Diploidna celica → haploidna celica
- 46 → 23
- Praspolna celica → spolna celica

- Poteka v spolnih organih: moda, jajčniki


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
Slide 5

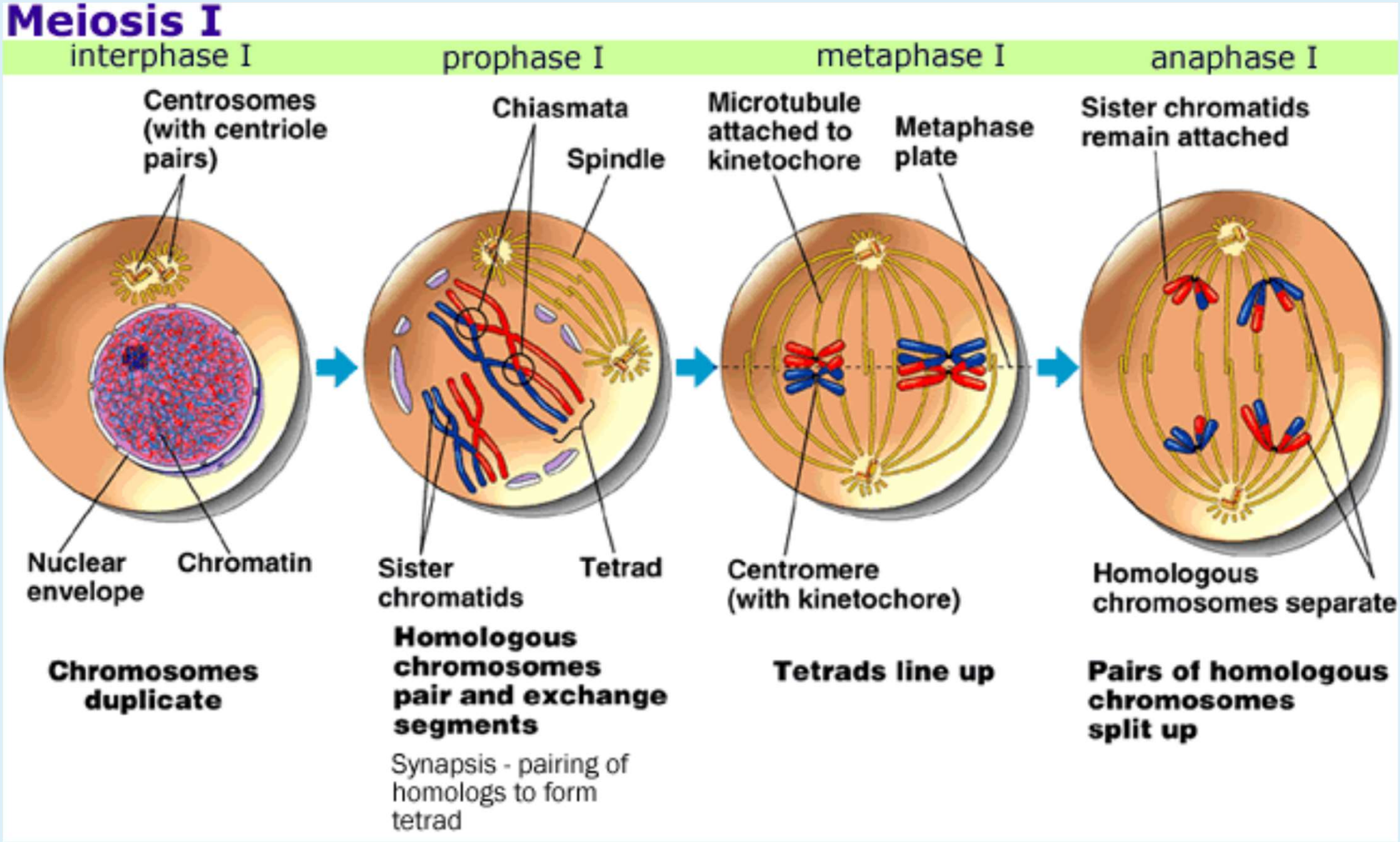
Prekrižanje (profaza I)

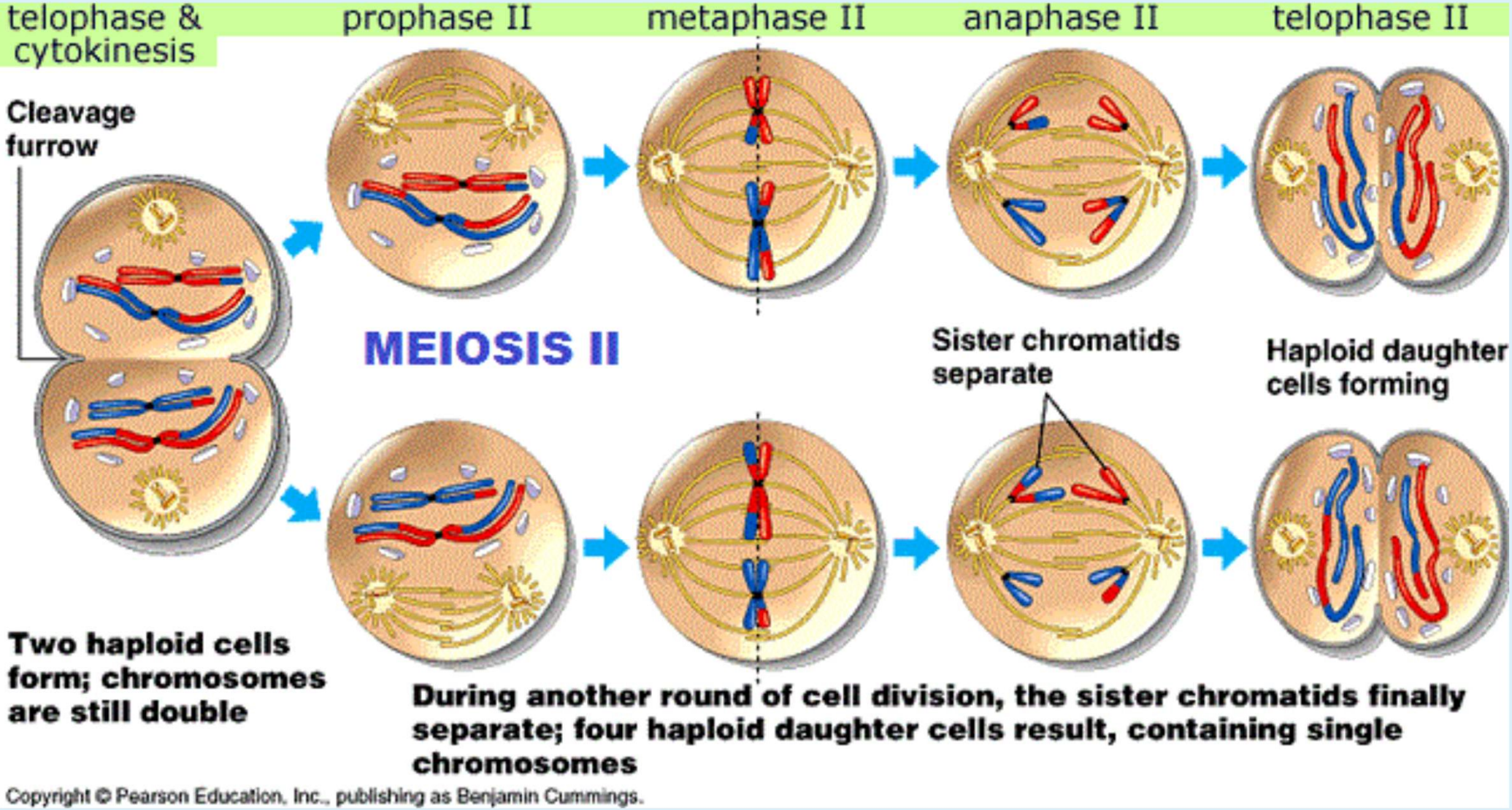


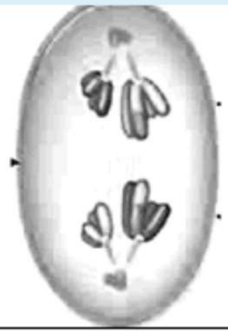


MEIOSIS II: Separate the Sister Chromatids (by mitosis)

Meiosis I


interphase I
prophase I
metaphase I
anaphase I
Centrosomes (with centriole pairs)
Nuclear envelope
Chromatin
Chromosomes duplicate
Chiasmata
Spindle
Sister chromatids
Tetrad
Homologous chromosomes pair and exchange segments
Synapsis - pairing of homologs to form tetrad
Microtubule attached to kinetochore
Metaphase plate
Centromere (with kinetochore)
Tetrads line up
Sister chromatids remain attached
Homologous chromosomes separate
Pairs of homologous chromosomes split up





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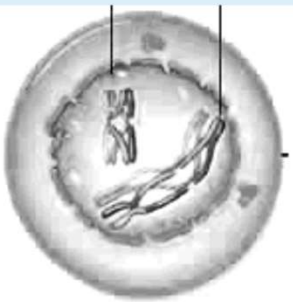

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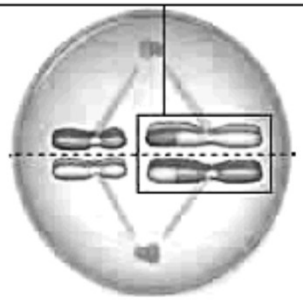

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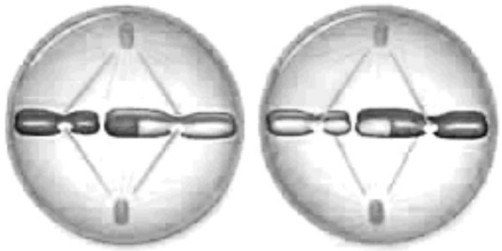

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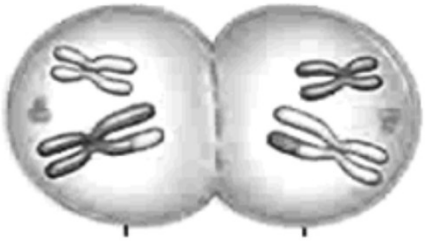

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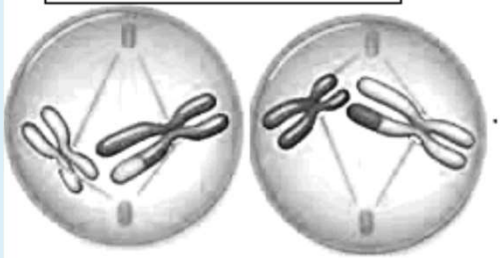

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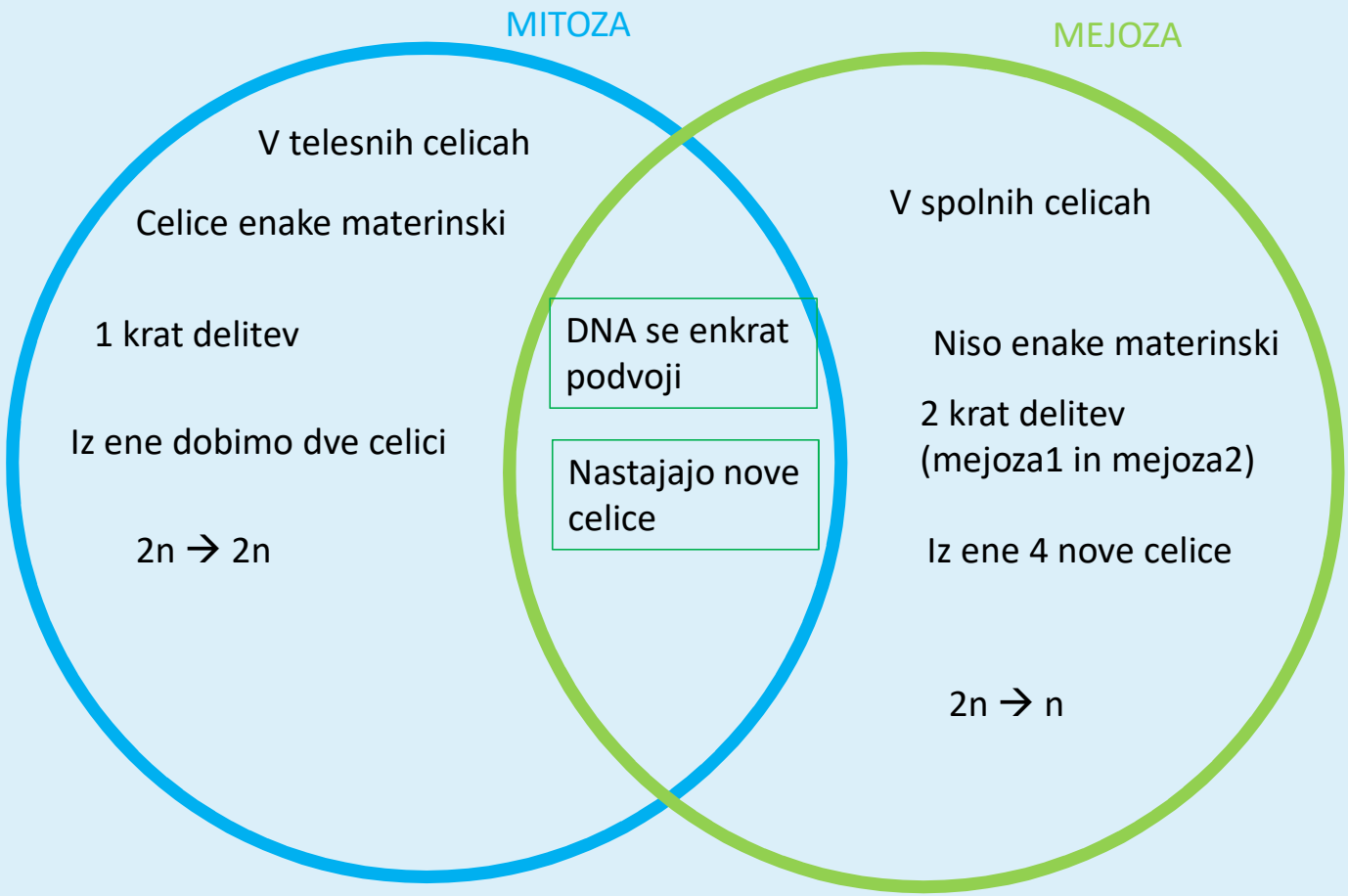
8.

Mejoza vs. mitoza



Primerjava mitoze in mejoze

	MITOZA	MEJOZA
Število delitev		
Št. kromosomov po delitvi		
Združevanje homolognih kromosomov		
Prekrižanje		
Anafaza		
Število hčerinskih celic		
Genska sestava hčerinskih celic		
Vloga		