

Answer these questions:

Define the term homologous chromosomes and identify the chromatids.

Chromosomes  
w/ same size,  
shape, genetic  
content

Differentiate between haploid and diploid cells.

↖ 2X

Summarize the steps of mitosis.

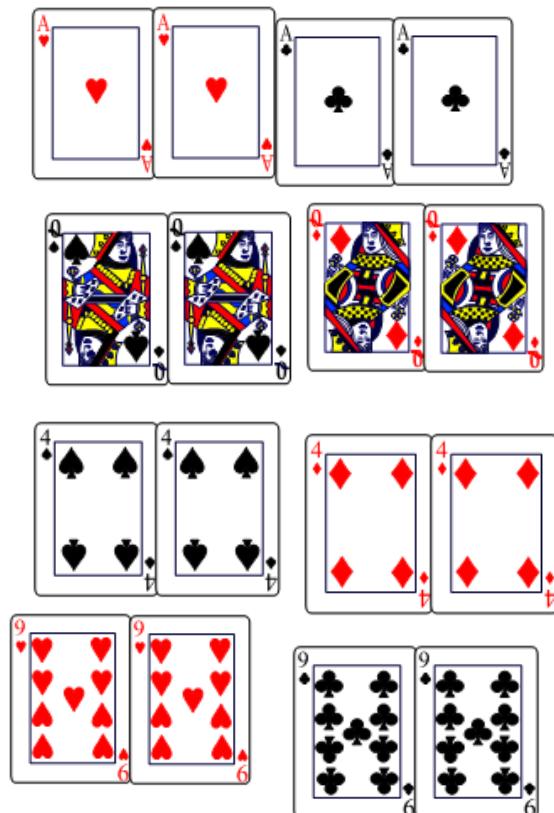
Choose one of the following organisms  
and calculate the chromosome number if  
cells were always haploid after 5  
generations.

Mosquito    6 - 12 - 24 - 48

Corn        20

Human      46 - 92 - 184 - 368

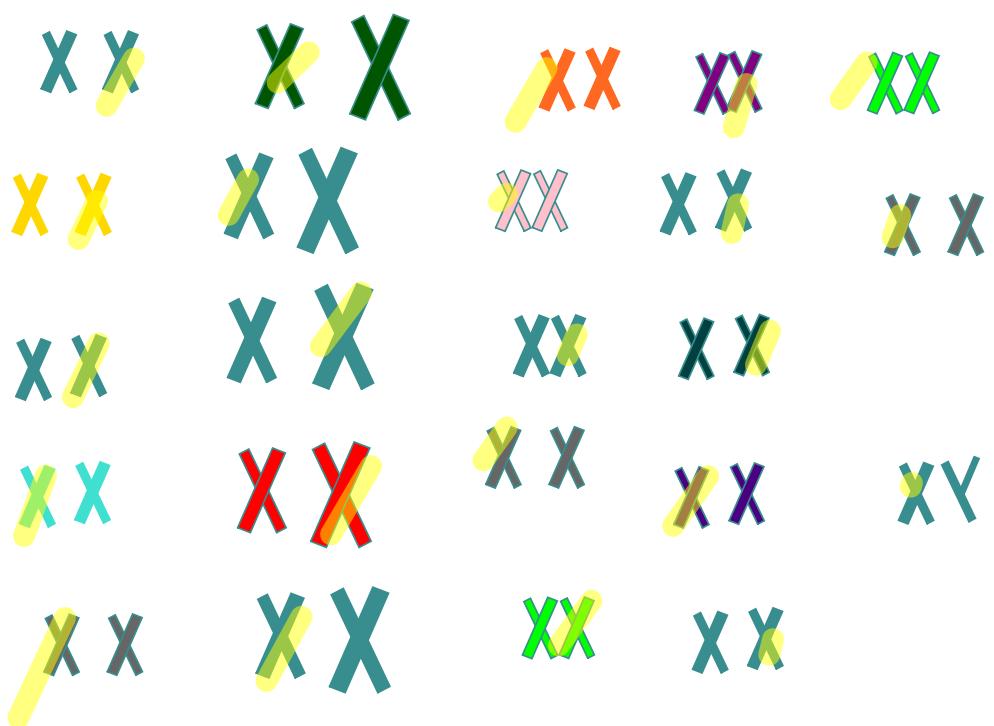
Horse       64



Meiosis- a form of cell division that halves the number of chromosomes when forming Specialized reproductive cells such as gametes.

Before  
meiosis like in  
mitosis the  
DNA  
replicates during  
interphase

Independent  
assortment-  
random  
distribution of  
homologous  
chromosomes  
during meiosis



This means that  
23 pairs of  
Chromosomes  
can be combined  
in  $2^{23}$   
combinations



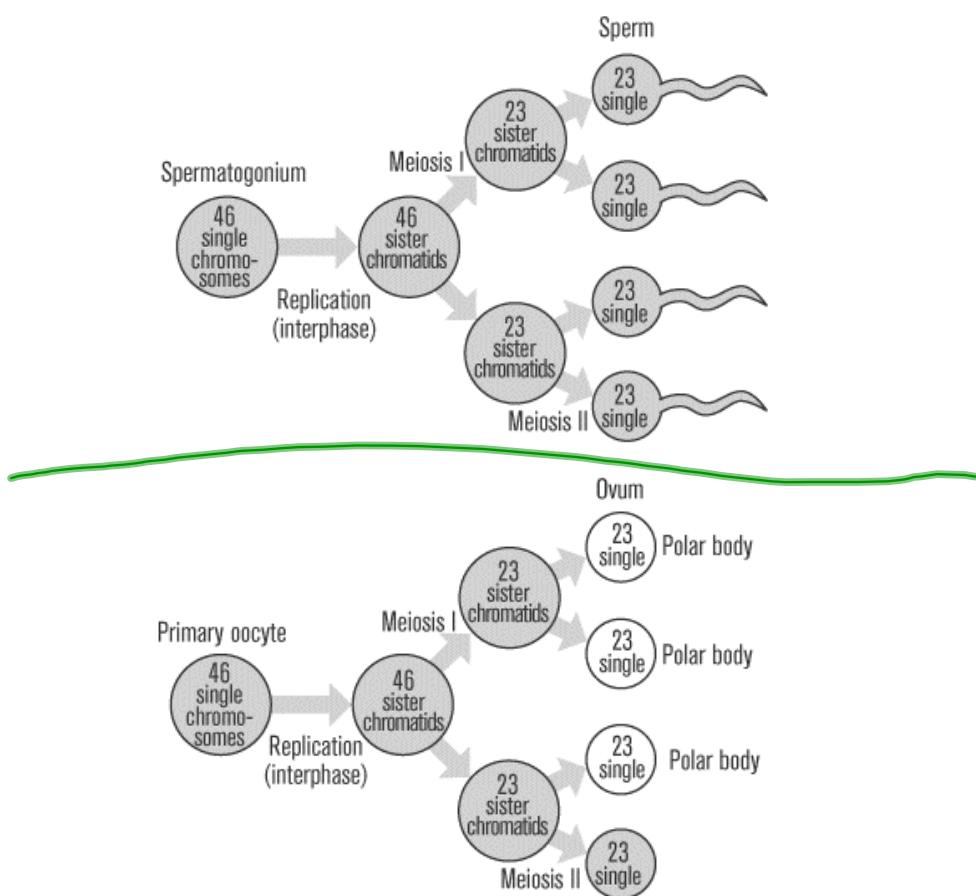
Crossing-over

Why is variation important?

better  
survival

## Gametogenesis-

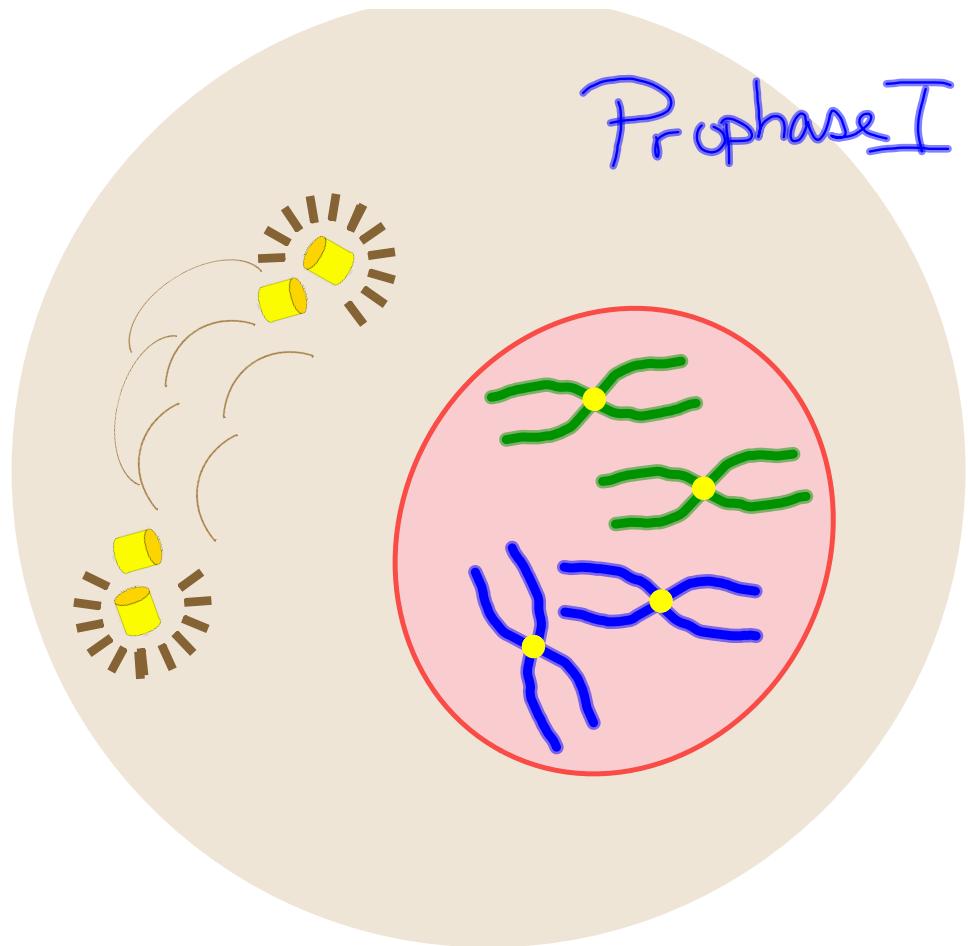
formation  
of  
gametes  
(sex cells)



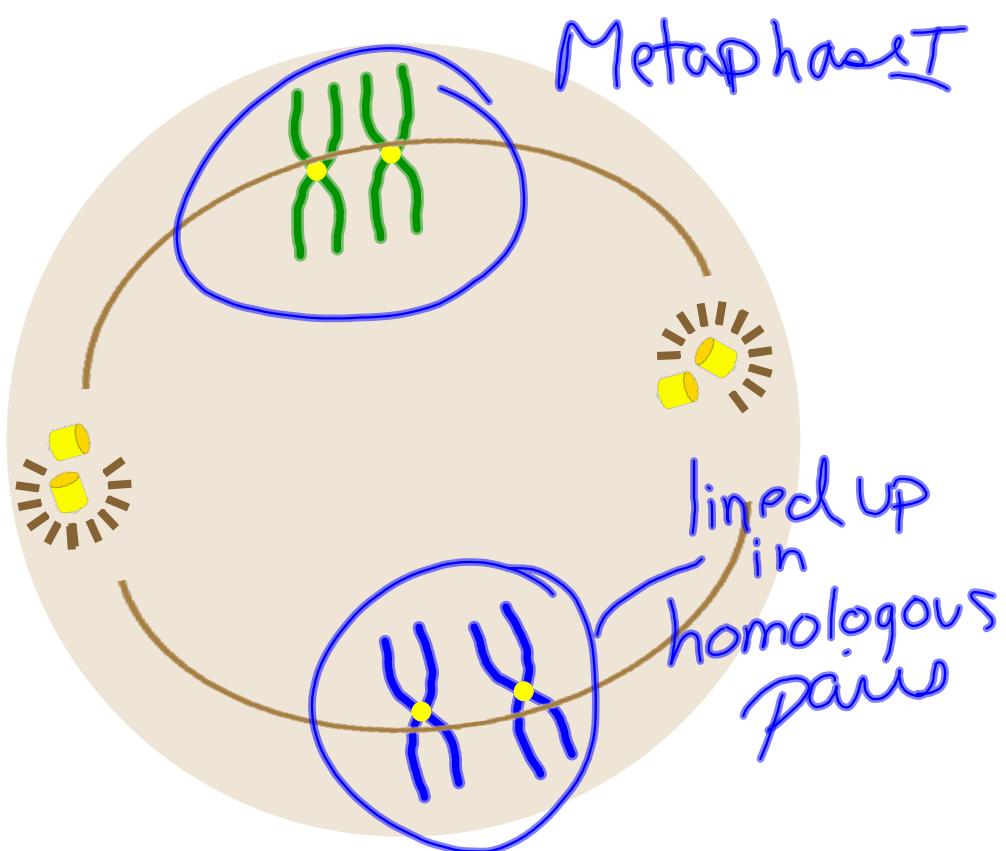
<http://www.sparknotes.com/testprep/books/sat2/biology/chapter7section2.rhtml>



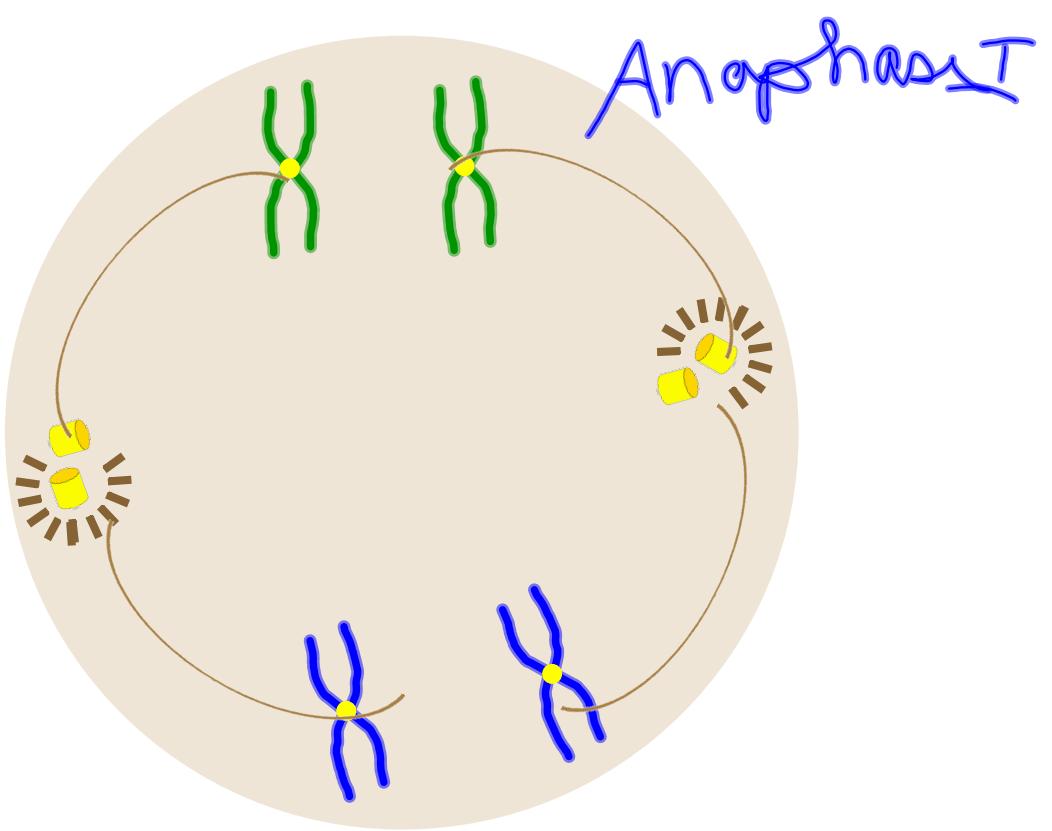
## Prophase I



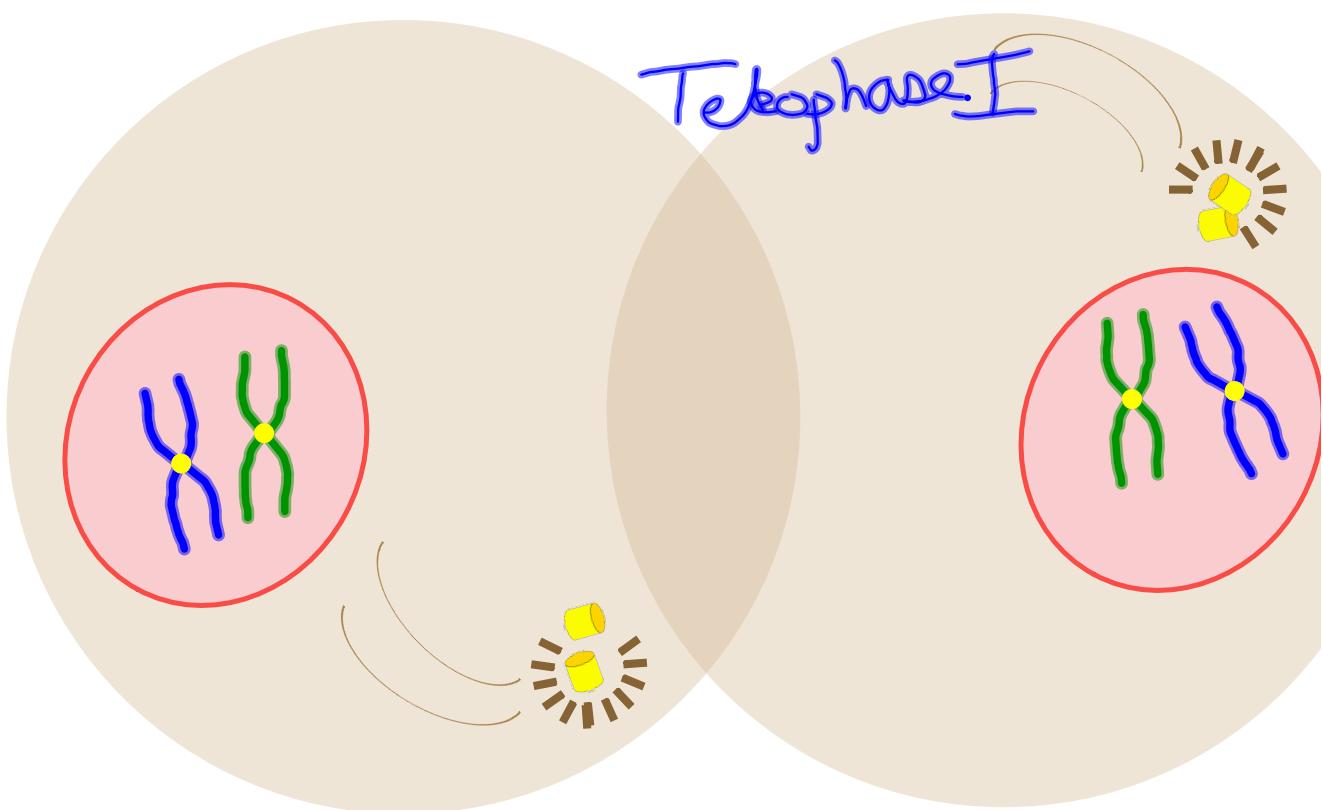
Prophase I



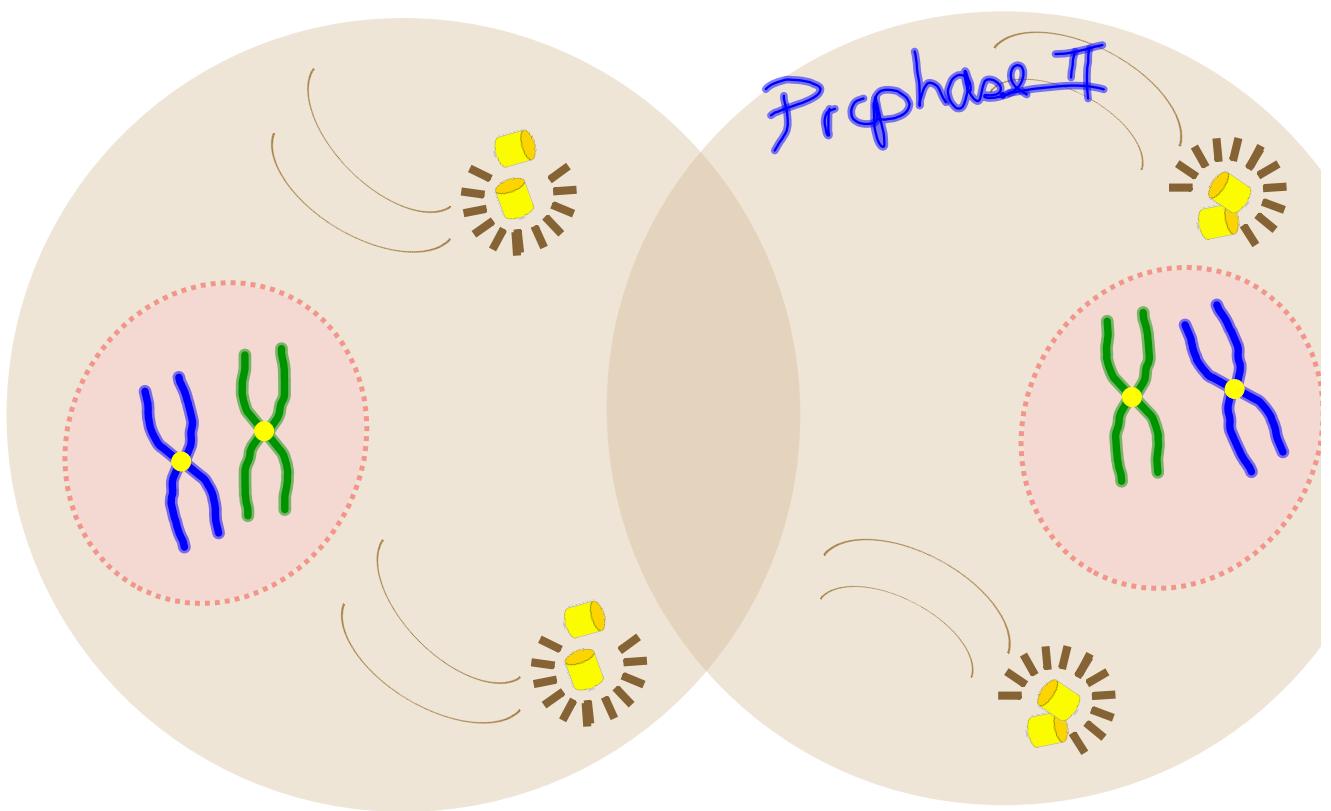
Metaphase I



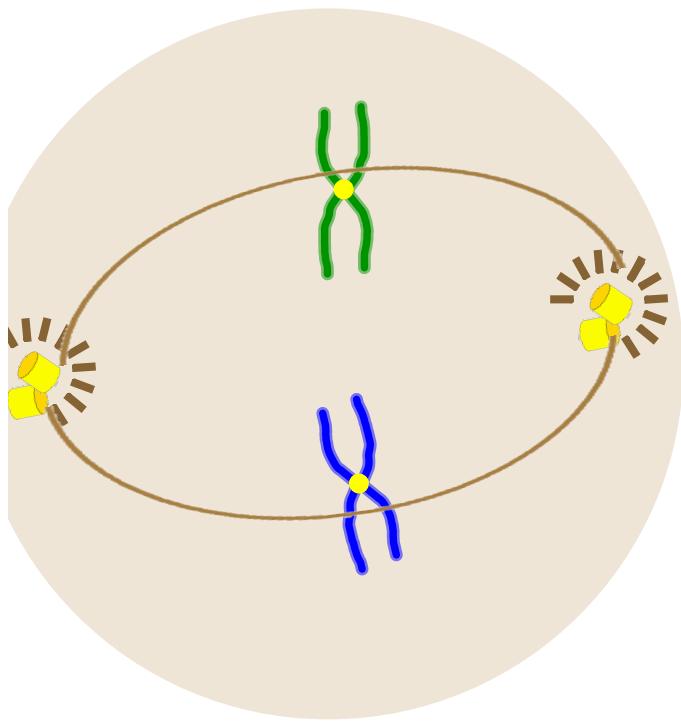
Anaphase I



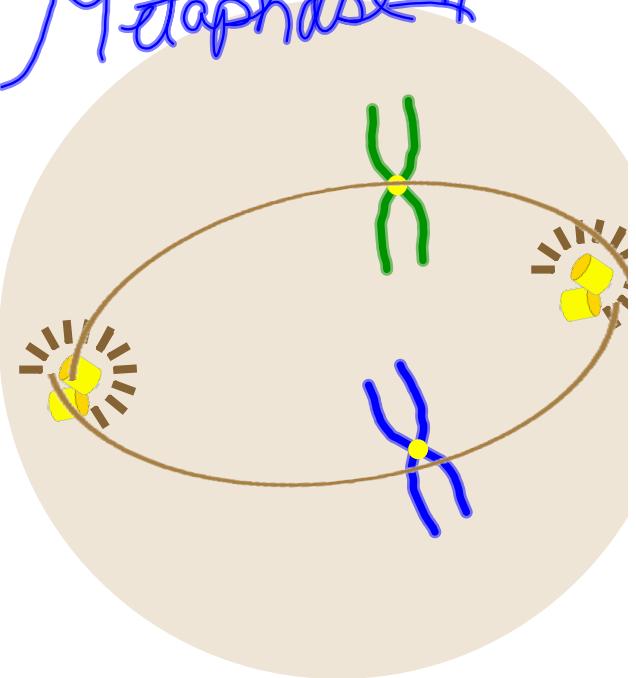
Telophase I



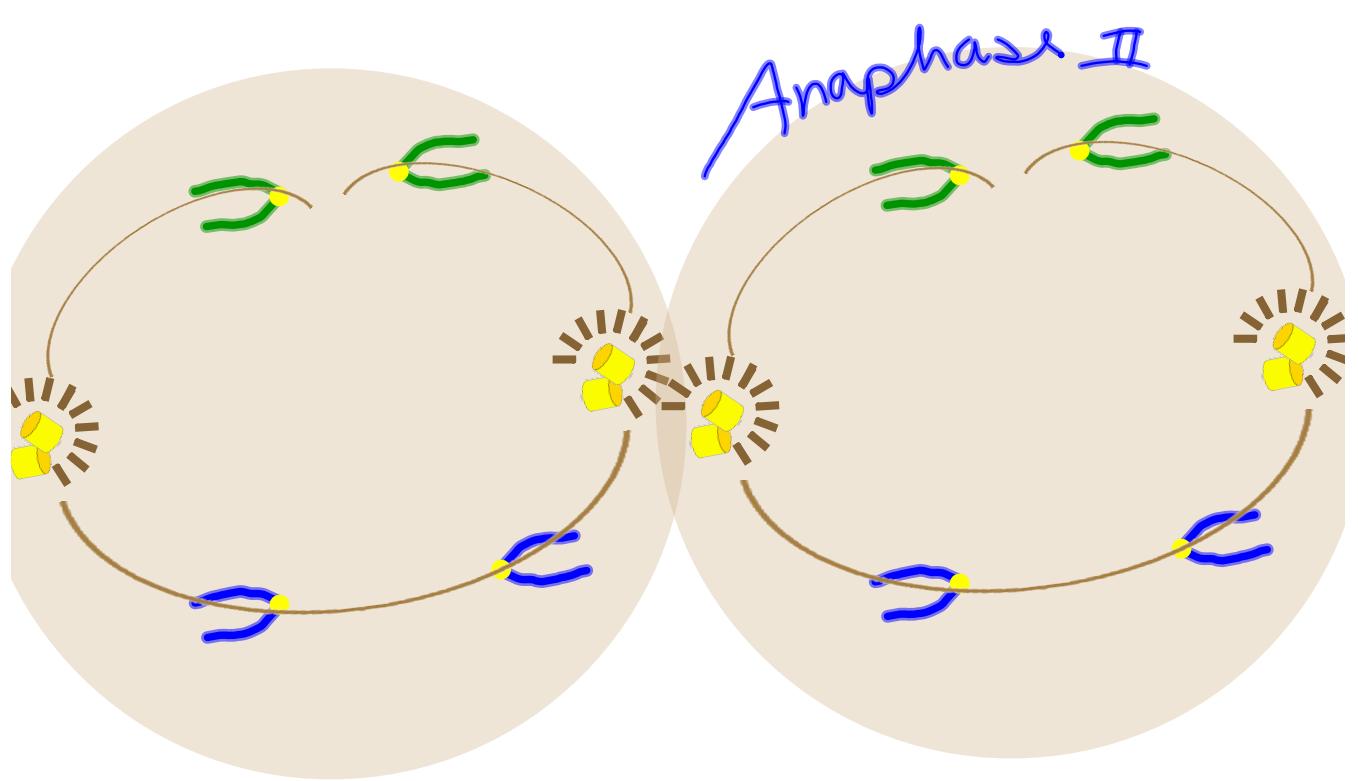
Prophase II



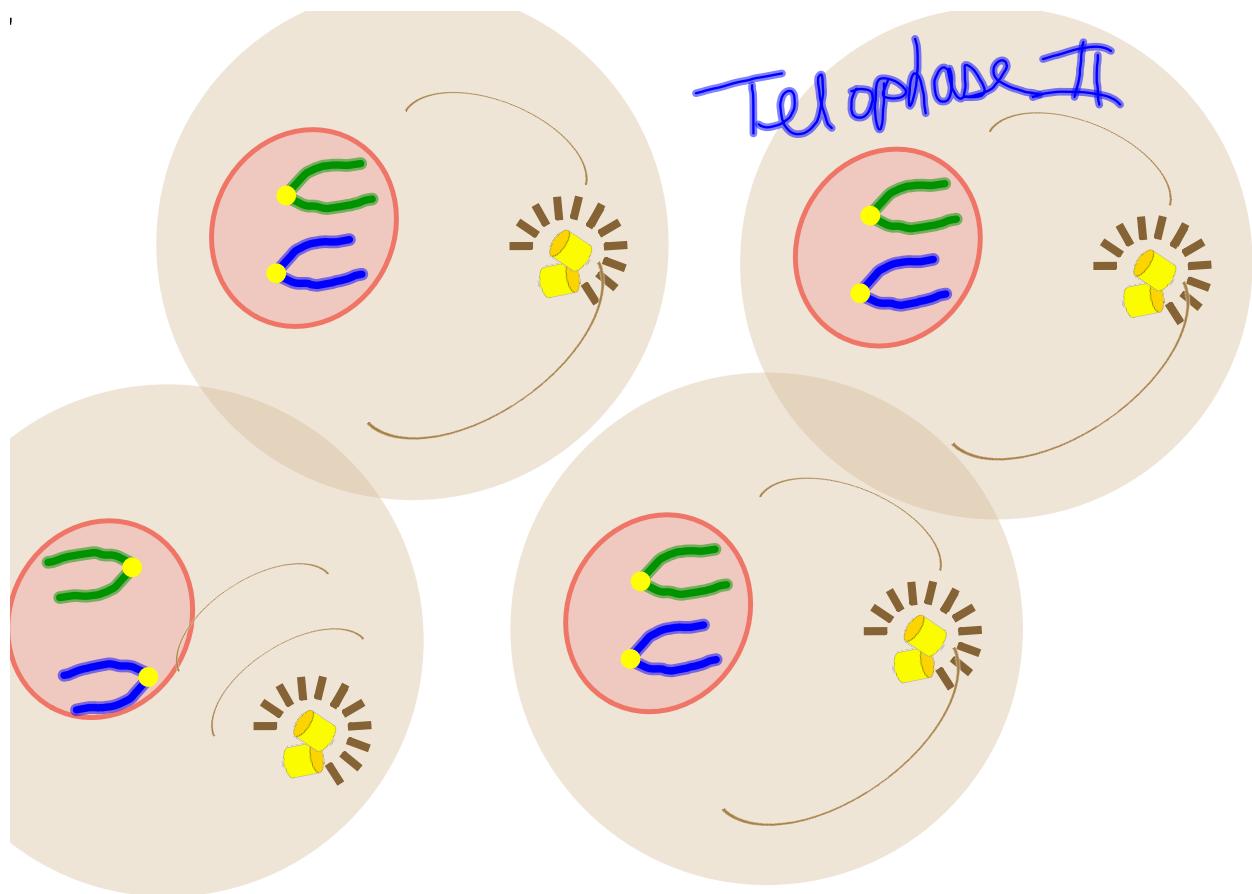
Metaphase II



Metaphase II



Anaphase II



Telophase II