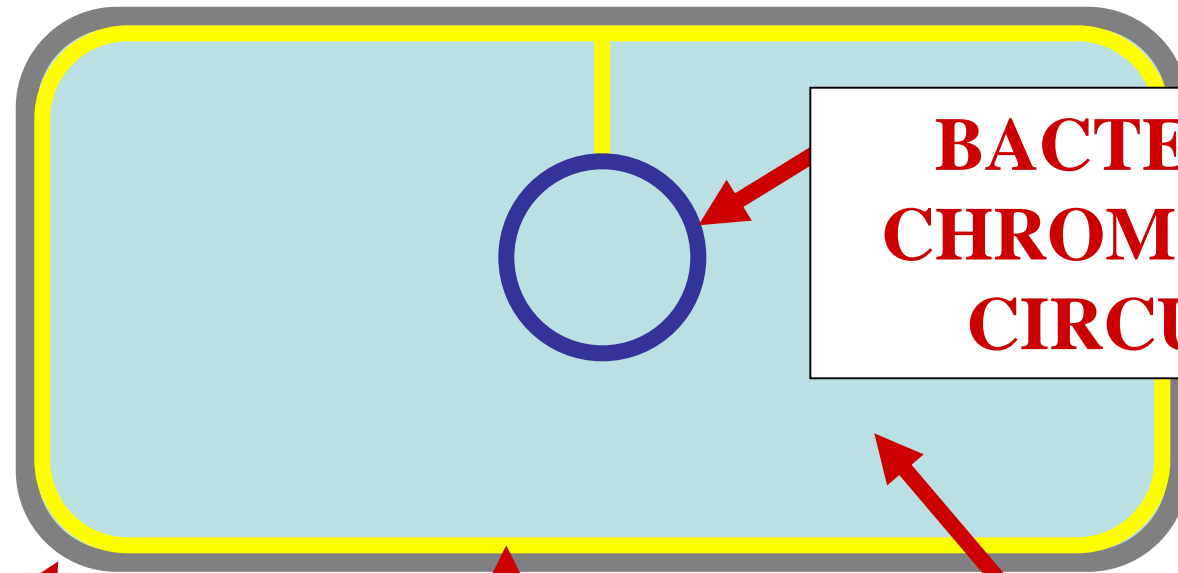


BINARY FISSION MOTHER CELL



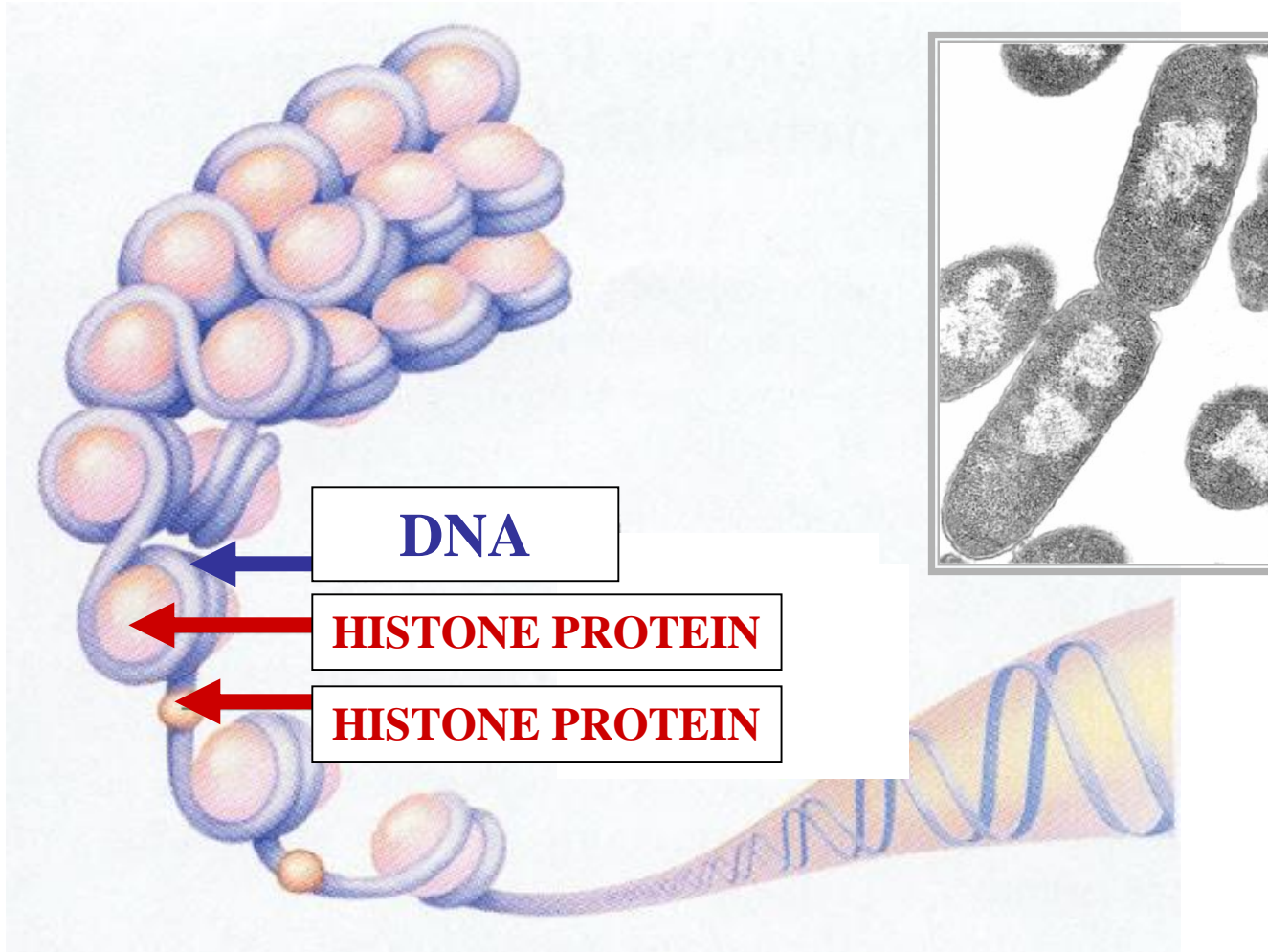
**BACTERIUM
CHROMOSOME
CIRCULAR**

CELL WALL

CELL MEMBRANE

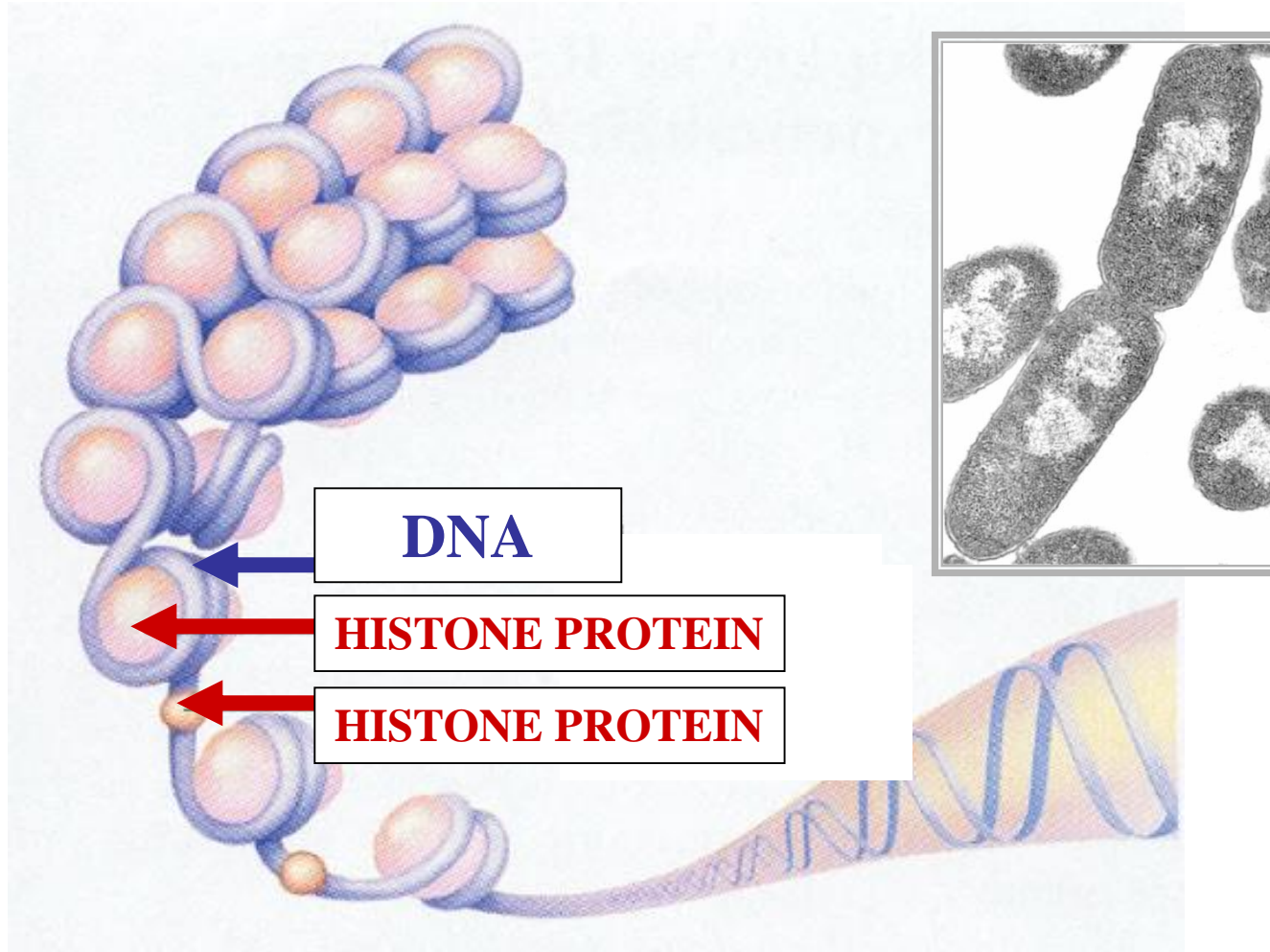
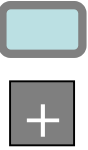
CYTOSOL

BACTERIUM CHROMOSOME HISTONE PROTEINS



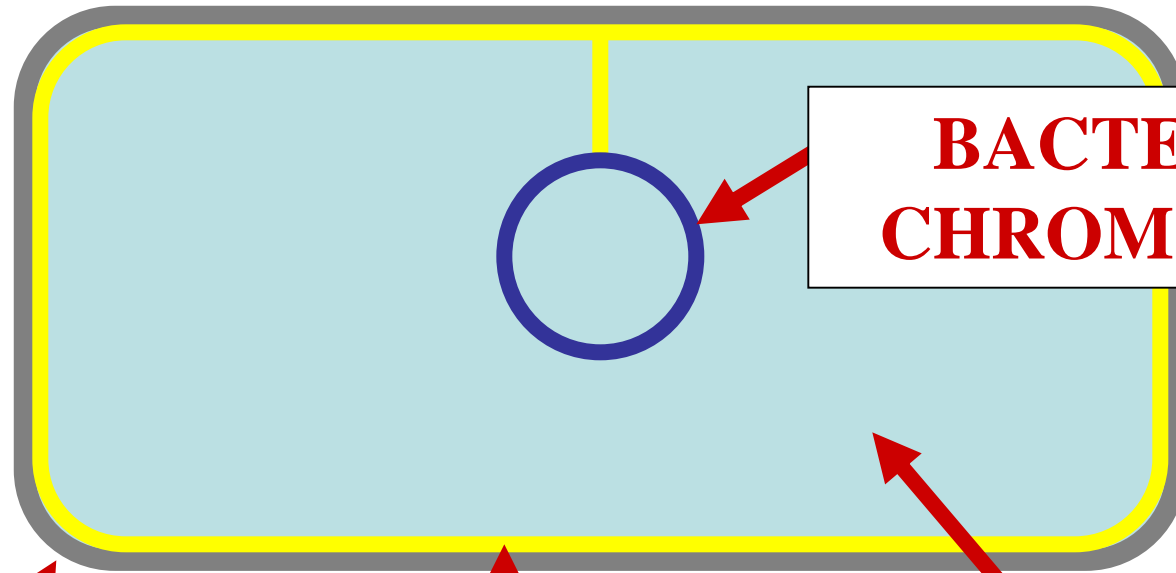
BACTERIUM CHROMOSOME:

BACTERIUM CHROMOSOME HISTONE PROTEINS



BACTERIUM CHROMOSOME: HISTONE PROTEINS ABSENT

BINARY FISSION MOTHER CELL



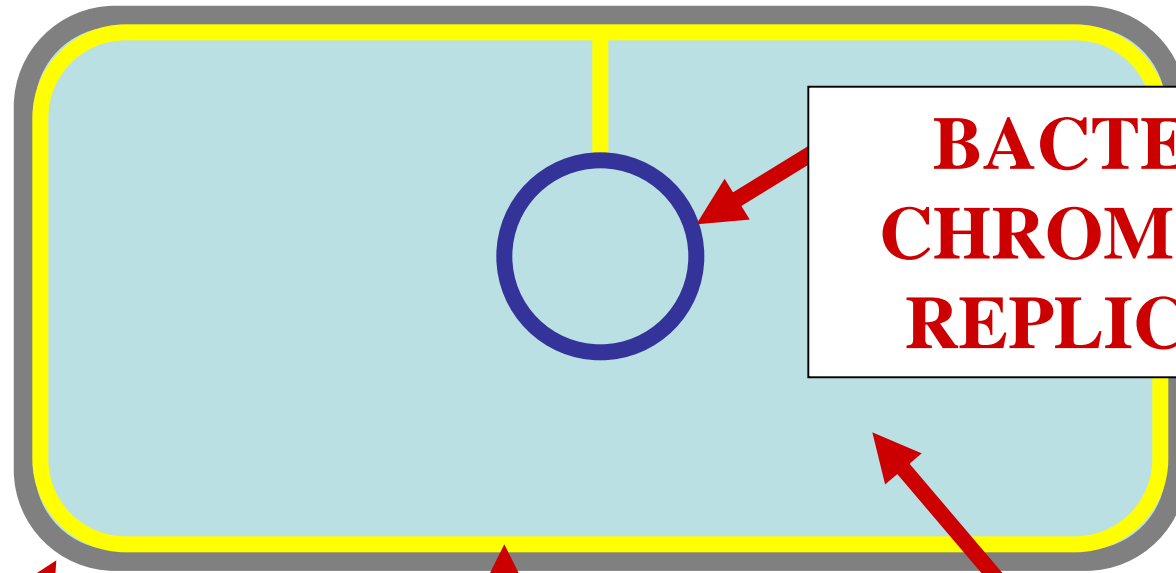
**BACTERIUM
CHROMOSOME**

CELL WALL

CELL MEMBRANE

CYTOSOL

BINARY FISSION MOTHER CELL



**BACTERIUM
CHROMOSOME
REPLICATION**

CELL WALL

CELL MEMBRANE

CYTOSOL

REPLICATION

REPLICATION



REPLICATION

**CHROMOSOME
COPIES ITSELF**

REPLICATION

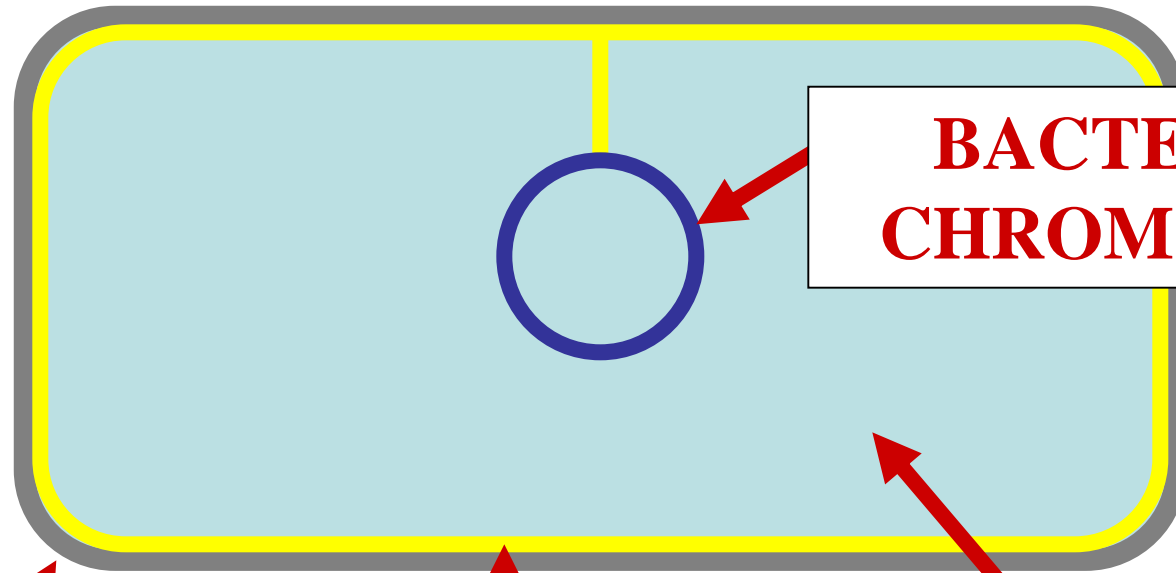


CHROMOSOME
REPLICATION

SYNONYMOUS

CHROMOSOME
DUPLICATION

BINARY FISSION MOTHER CELL



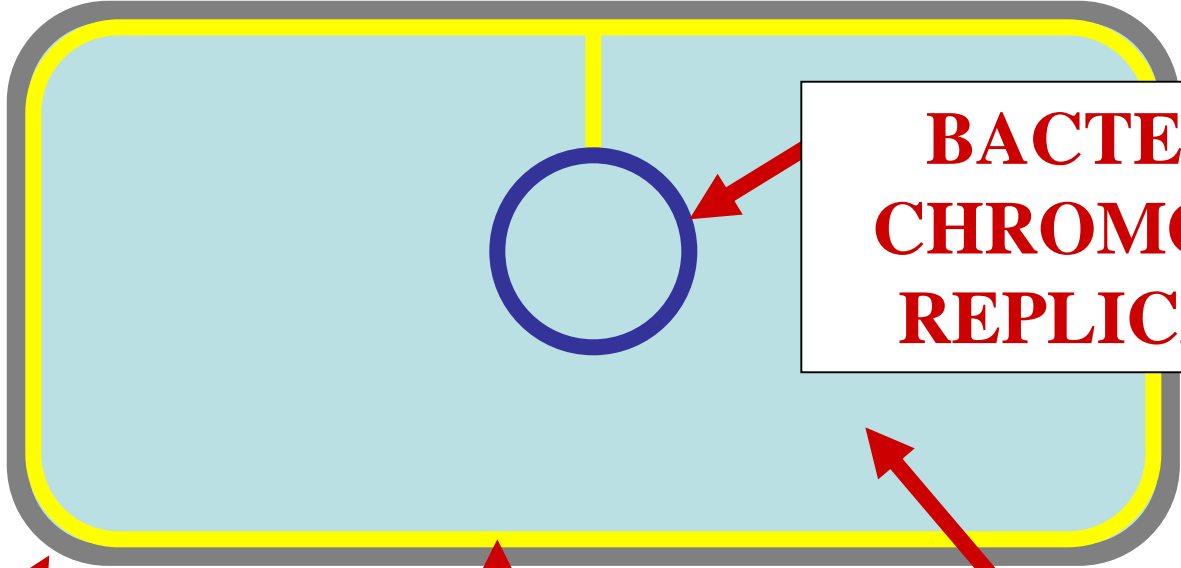
**BACTERIUM
CHROMOSOME**

CELL WALL

CELL MEMBRANE

CYTOSOL

BINARY FISSION MOTHER CELL



**BACTERIUM
CHROMOSOME
REPLICATION**

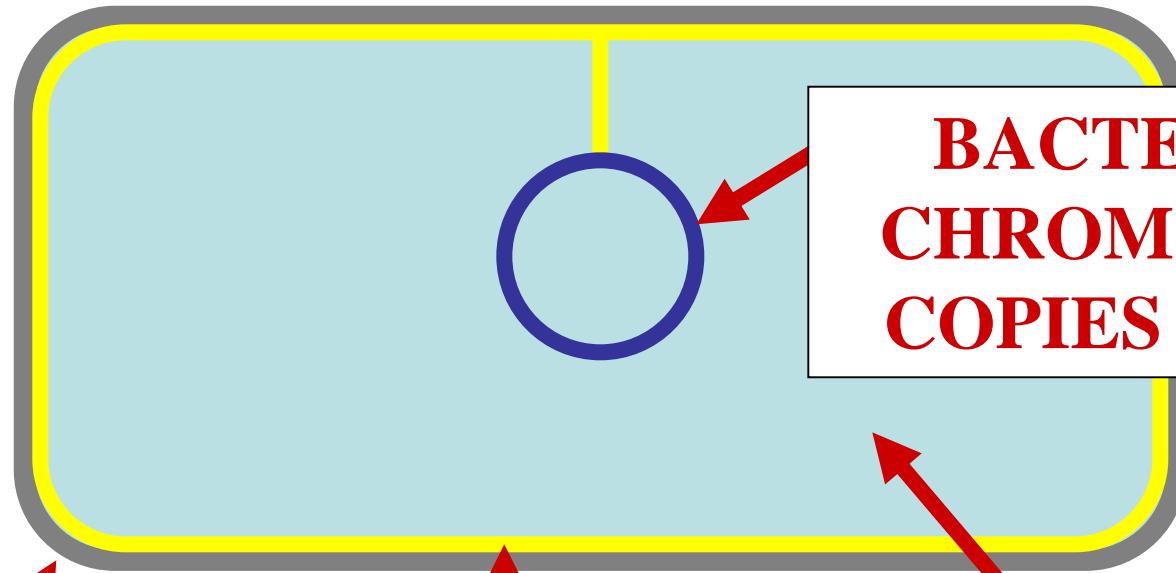
CELL WALL

CELL MEMBRANE

CYTOSOL



BINARY FISSION MOTHER CELL



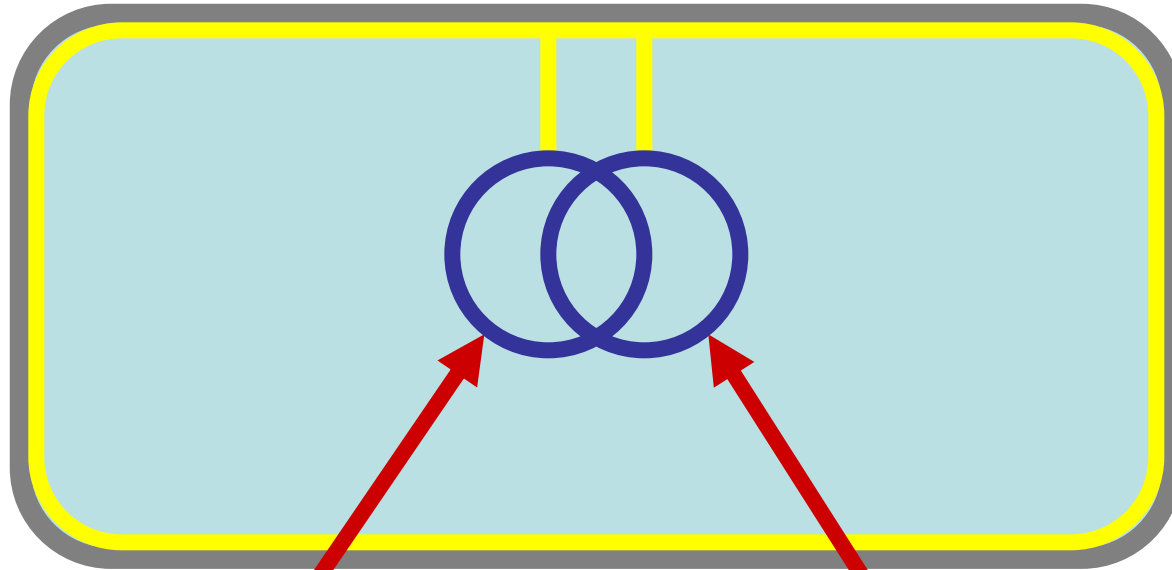
**BACTERIUM
CHROMOSOME
COPIES ITSELF**

CELL WALL

CELL MEMBRANE

CYTOSOL

BINARY FISSION MOTHER CELL

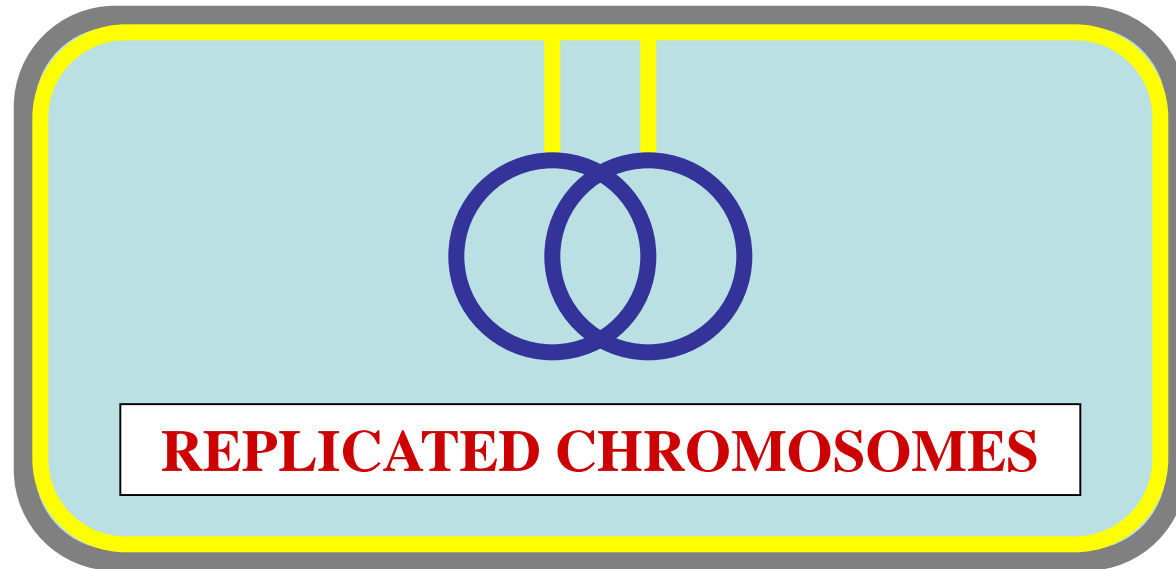


**REPLICATED
BACTERIUM
CHROMOSOME**

**REPLICATED
BACTERIUM
CHROMOSOME**



BINARY FISSION MOTHER CELL



DNA CONTENT DOUBLED

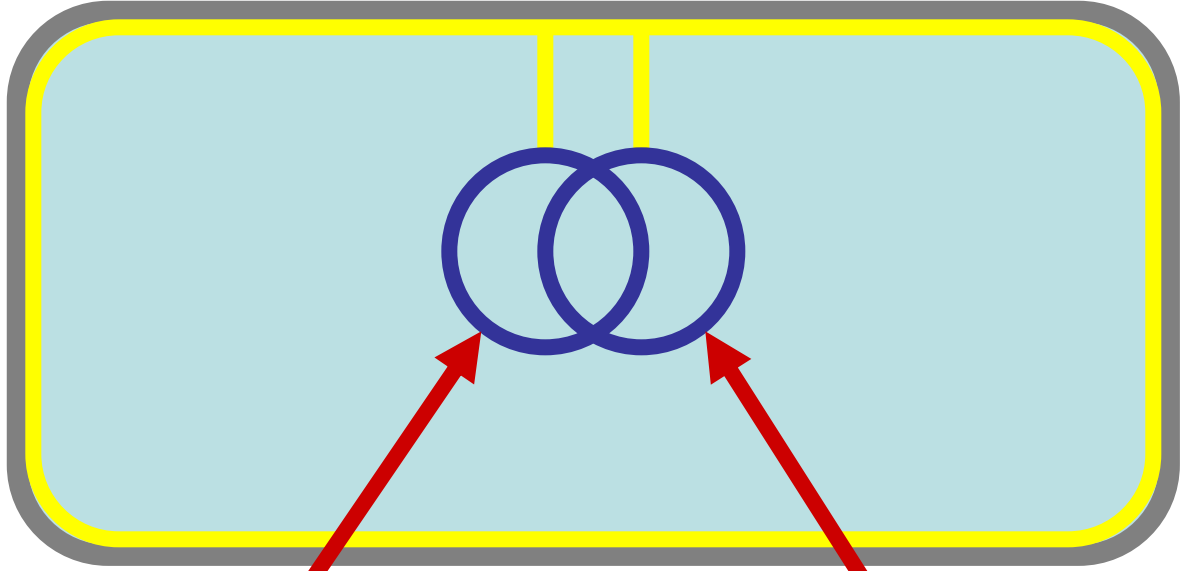


***REPLICATION
MUST OCCUR
PRIOR TO
BINARY FISSION***



BINARY FISSION SPECIFICS

BINARY FISSION MOTHER CELL



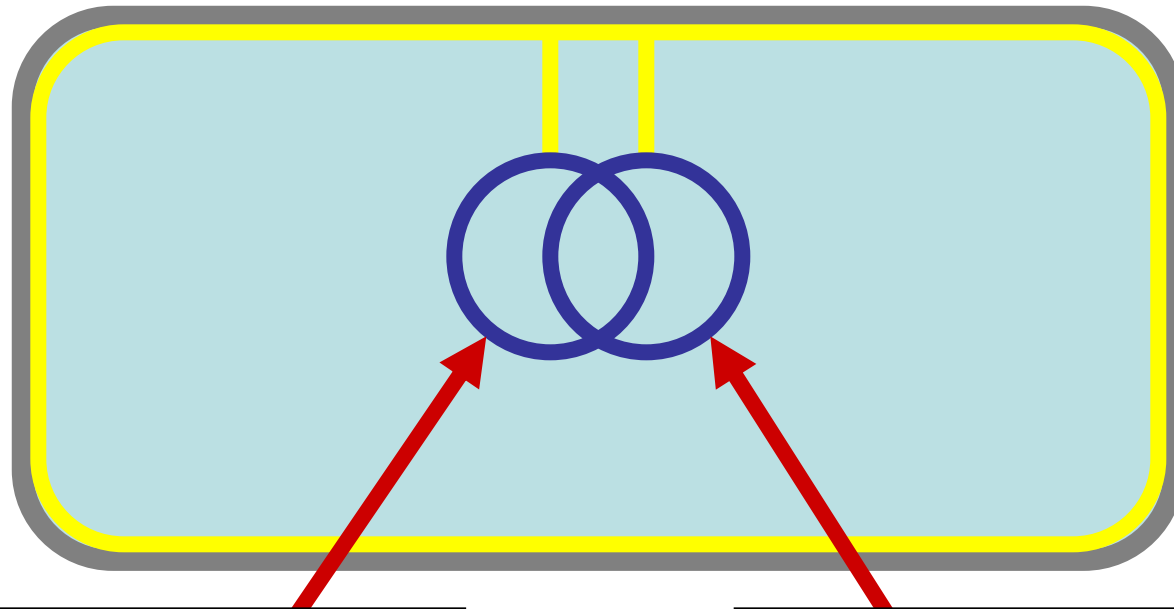
**REPLICATED
BACTERIUM
CHROMOSOME**

**REPLICATED
BACTERIUM
CHROMOSOME**



BINARY FISSION

MOTHER CELL



**CELL MEMBRANE
BACTERIUM
CHROMOSOME
ATTACHED**

**CELL MEMBRANE
BACTERIUM
CHROMOSOME
ATTACHED**

BINARY FISSION MOTHER CELL



**CELL
GROWTH
CELL MEMBRANE
GROWTH**

**CELL
GROWTH
CELL MEMBRANE
GROWTH**

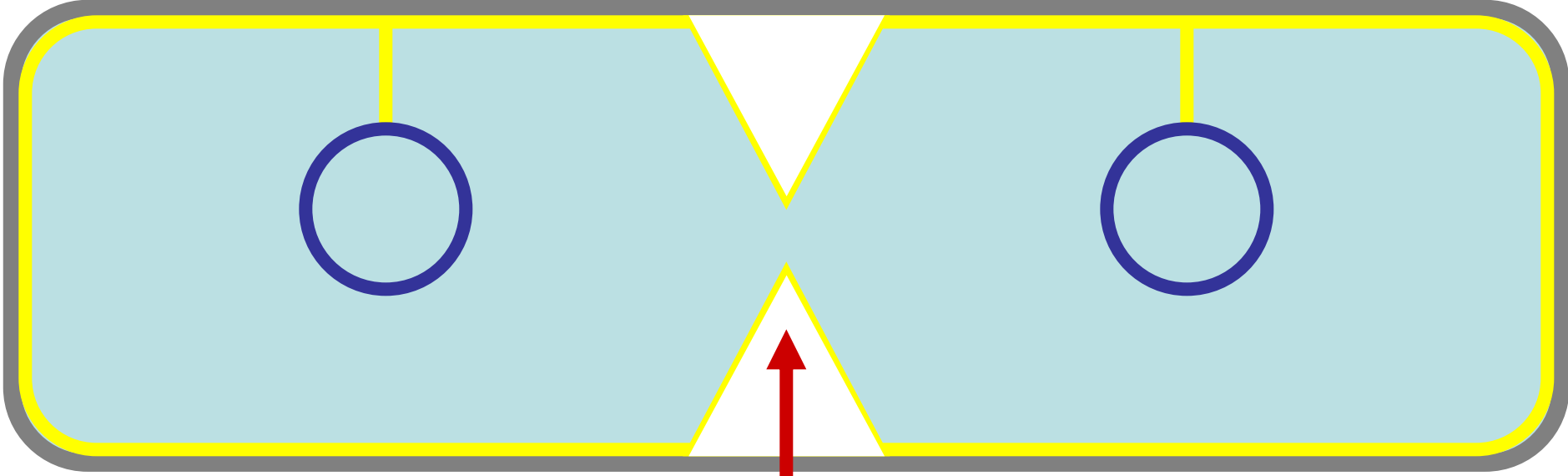
BINARY FISSION MOTHER CELL



**REPLICATED
BACTERIUM
CHROMOSOMES
SEPARATE**

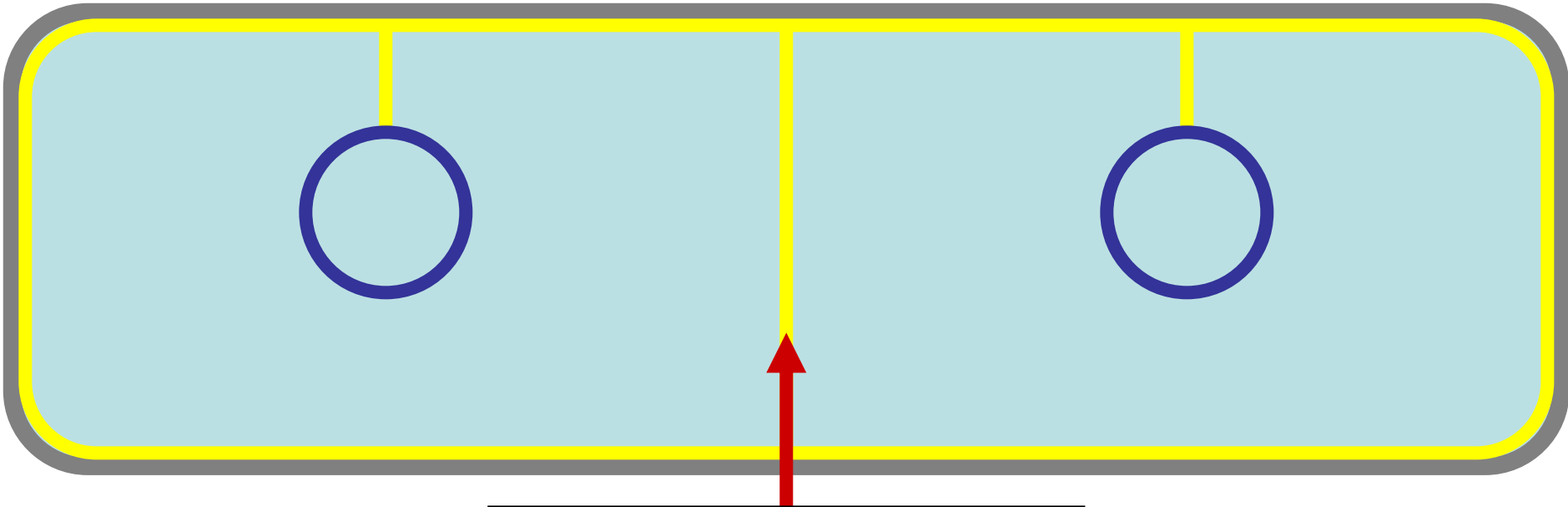
**REPLICATED
BACTERIUM
CHROMOSOMES
SEPARATE**

BINARY FISSION MOTHER CELL



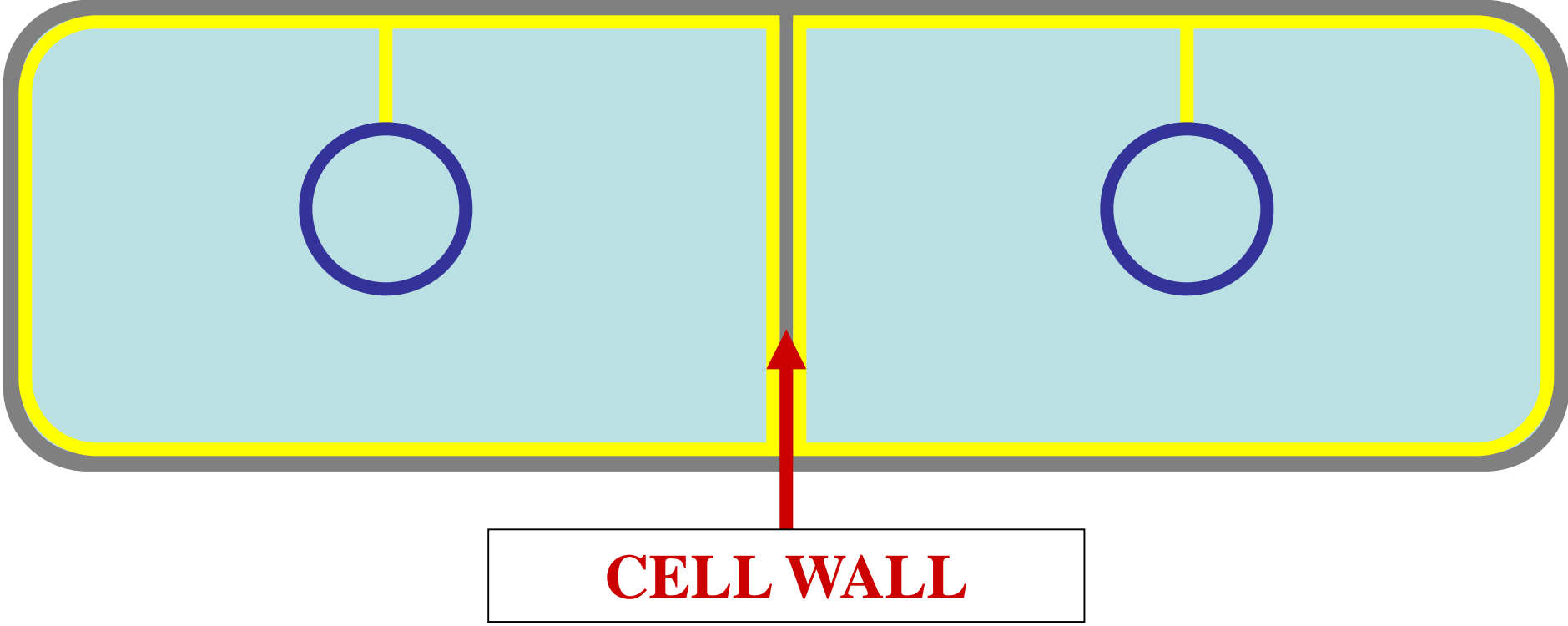
**CELL MEMBRANE
INVAGINATION**

BINARY FISSION MOTHER CELL

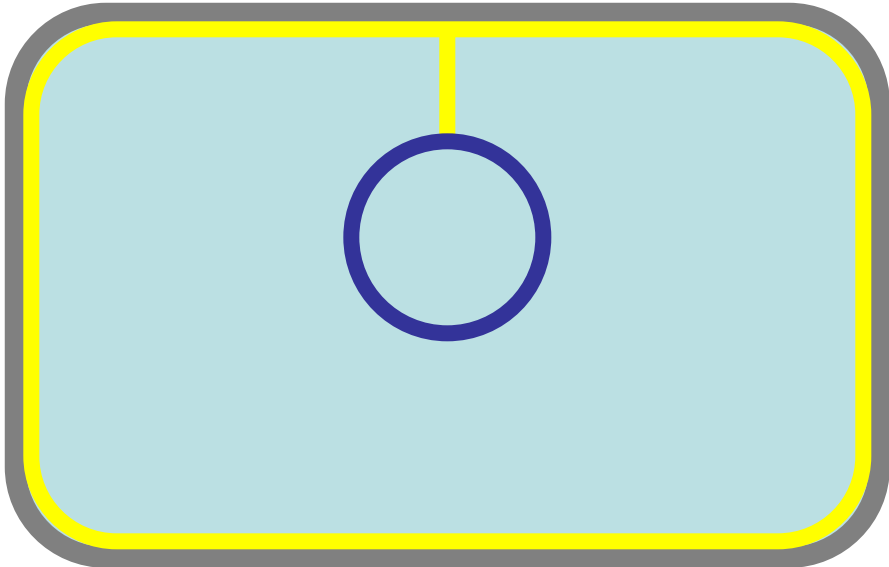


**CELL MEMBRANE
ISOLATES
REPLICATED
CHROMOSOMES**

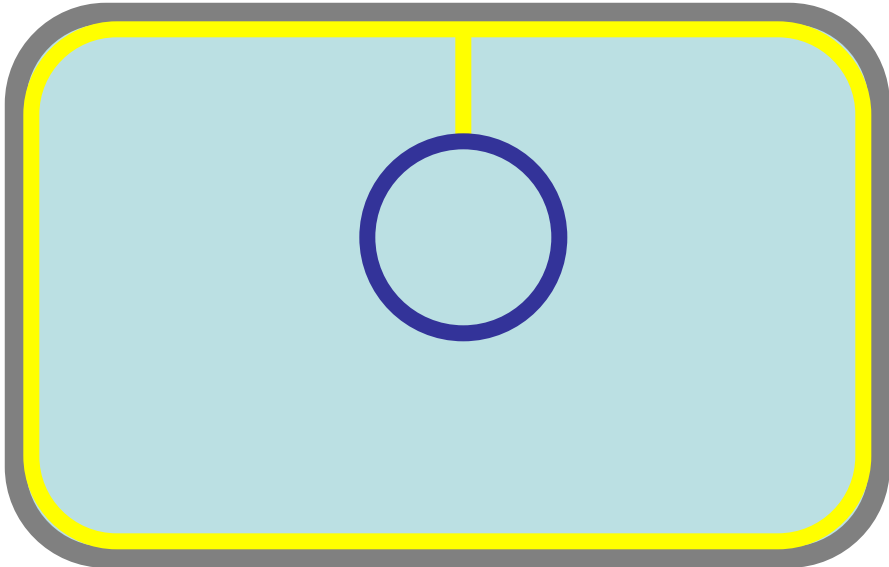
BINARY FISSION MOTHER CELL



BINARY FISSION MOTHER CELL



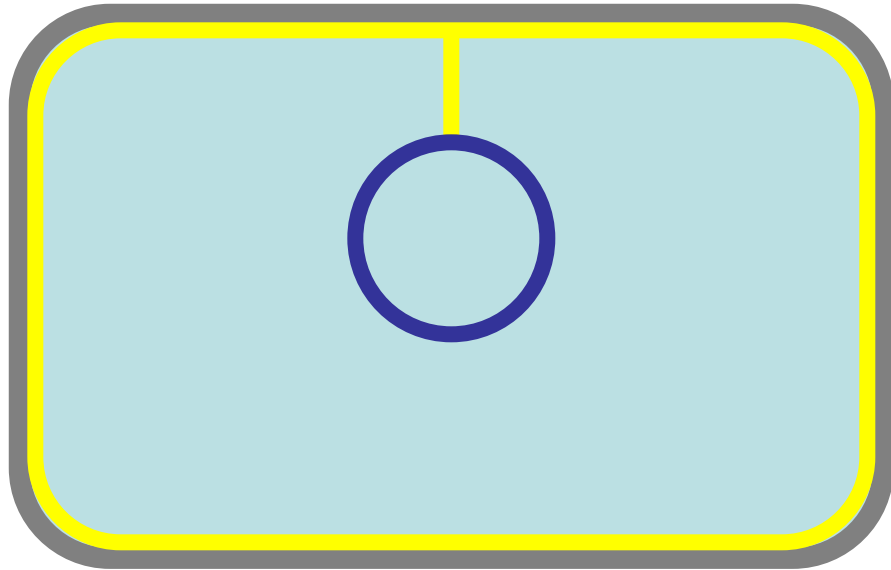
**BACTERIUM
CELL**



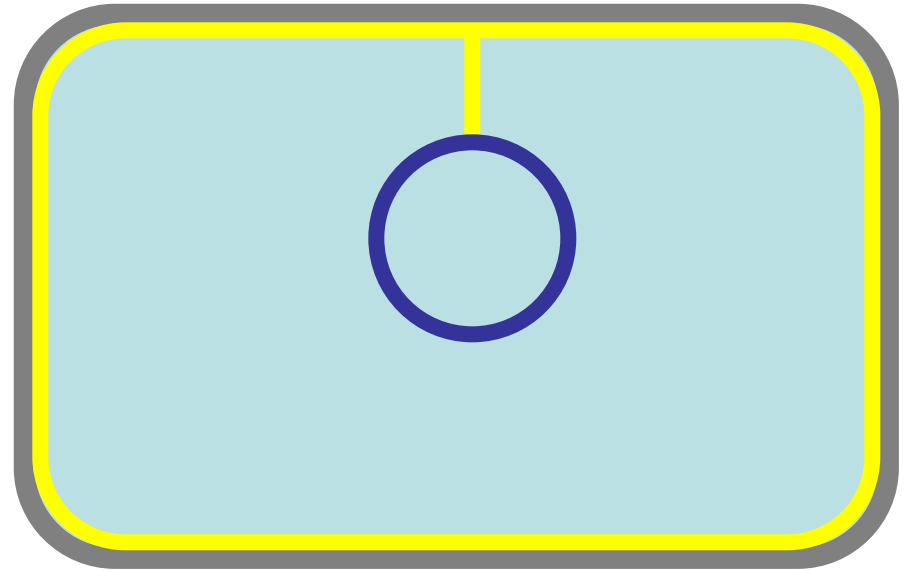
**BACTERIUM
CELL**



BINARY FISSION DAUGHTER CELLS



**DAUGHTER
CELL**



**DAUGHTER
CELL**

DAUGHTER CELLS

DAUGHTER CELLS

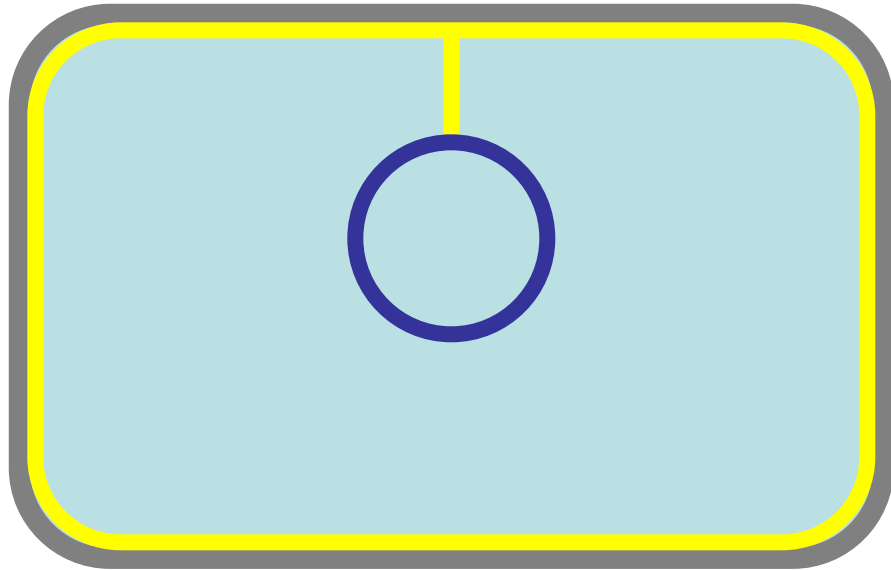
DAUGHTER CELLS



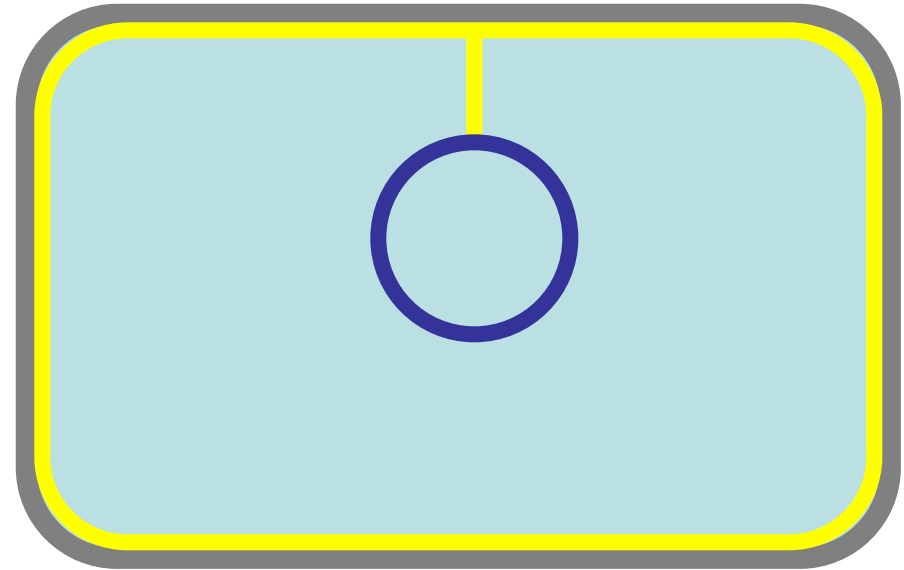
**GENETICALLY
IDENTICAL**

DAUGHTER CELLS

BINARY FISSION DAUGHTER CELLS



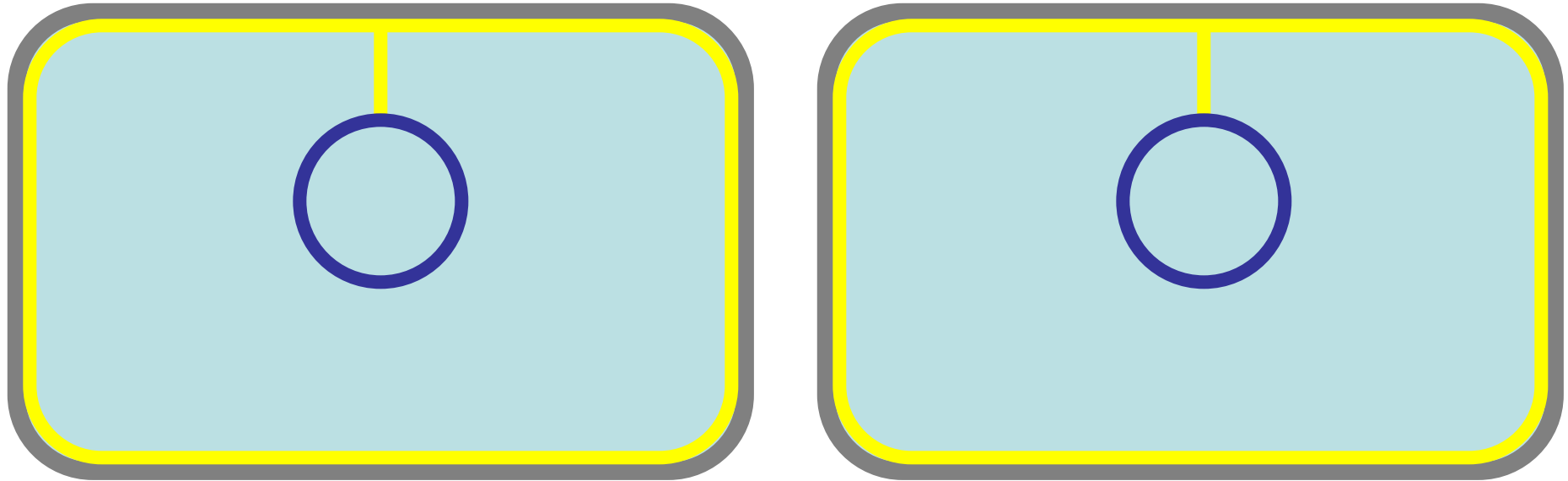
**DAUGHTER
CELL**



**DAUGHTER
CELL**



BINARY FISSION DAUGHTER CELLS

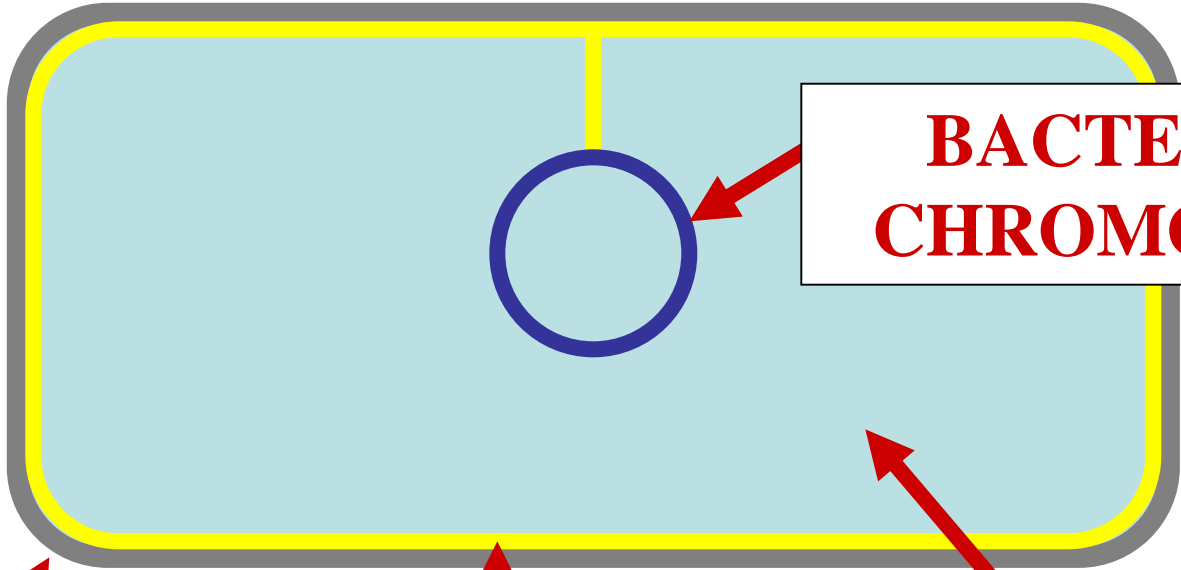


GENETICALLY IDENTICAL



PROKARYOTE CELL DIVISION SUMMARY

PROKARYOTE



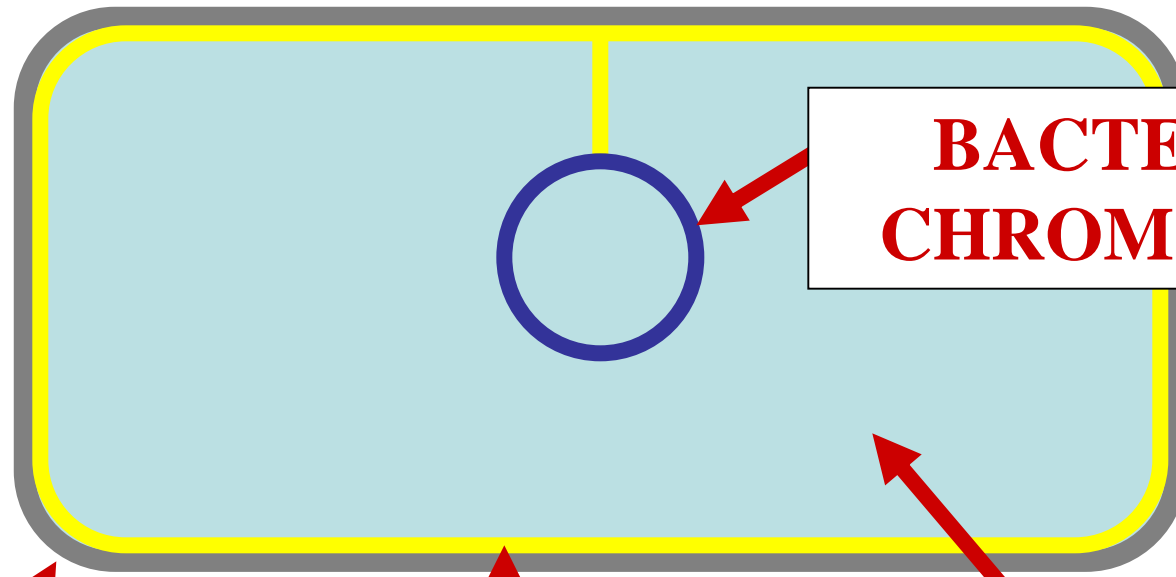
**BACTERIUM
CHROMOSOME**

CELL WALL

CELL MEMBRANE

CYTOSOL

PROKARYOTE BACTERIUM



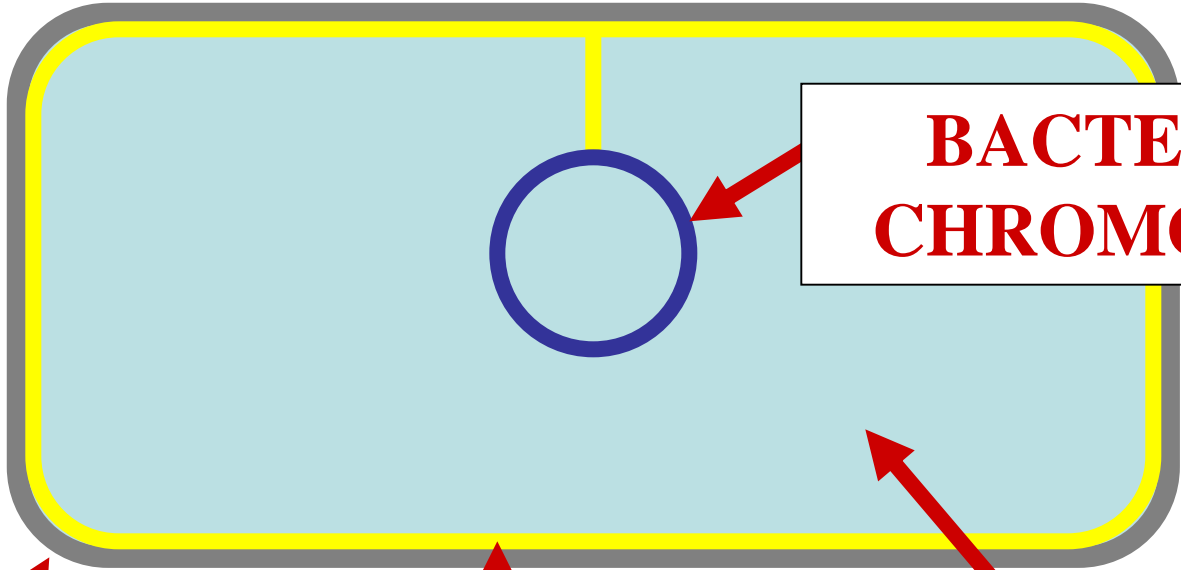
**BACTERIUM
CHROMOSOME**

CELL WALL

CELL MEMBRANE

CYTOSOL

PROKARYOTE CELL DIVISION



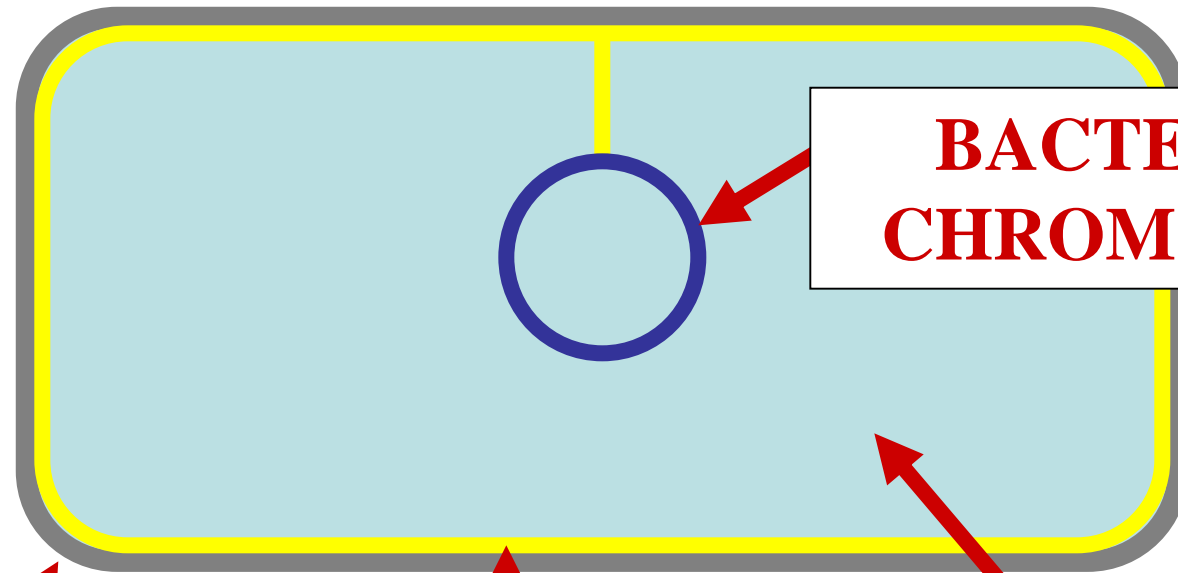
**BACTERIUM
CHROMOSOME**

CELL WALL

CELL MEMBRANE

CYTOSOL

PROKARYOTE BINARY FISSION



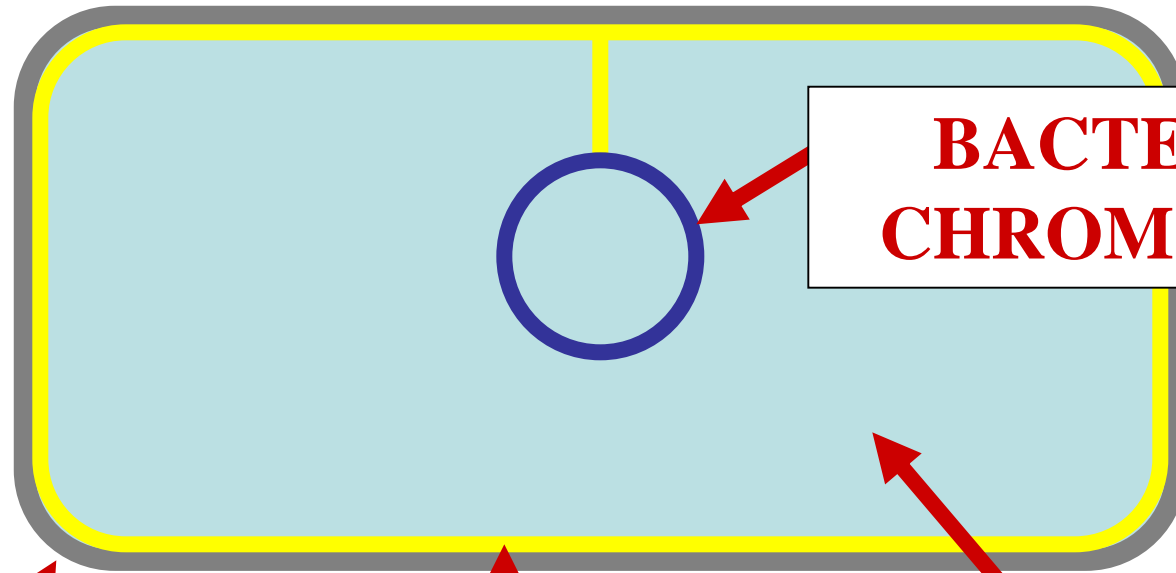
**BACTERIUM
CHROMOSOME**

CELL WALL

CELL MEMBRANE

CYTOSOL

BINARY FISSION MOTHER CELL



**BACTERIUM
CHROMOSOME**

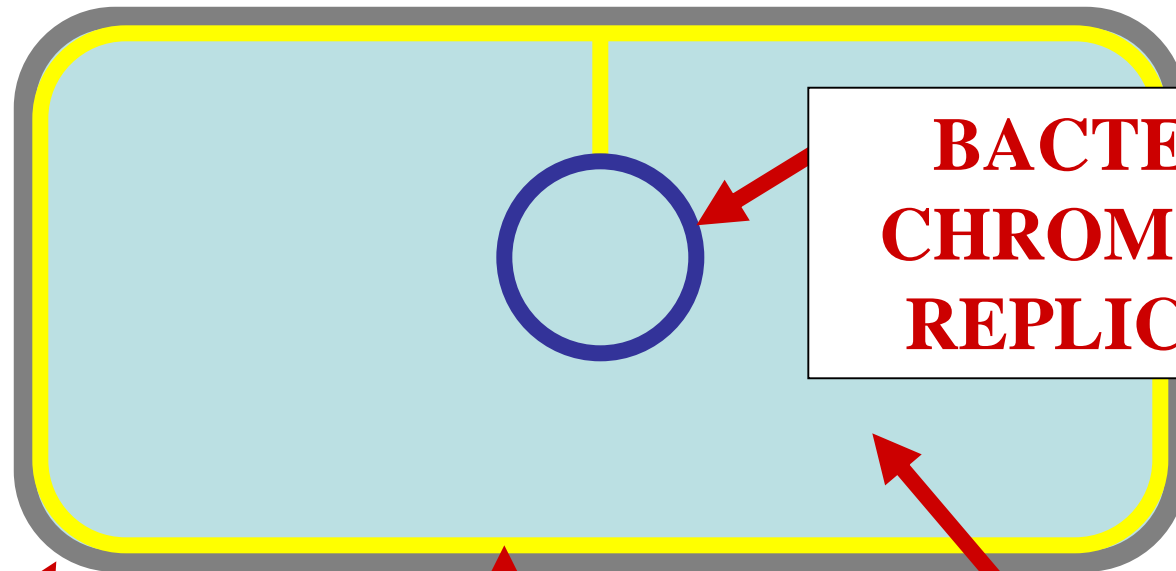
CELL WALL

CELL MEMBRANE

CYTOSOL



BINARY FISSION MOTHER CELL



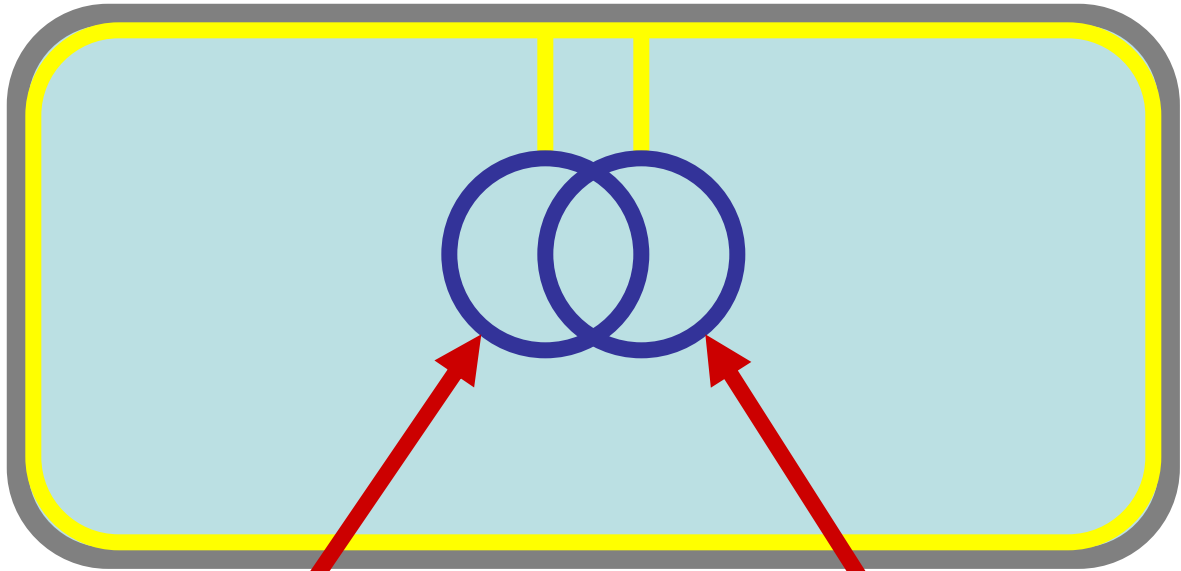
**BACTERIUM
CHROMOSOME
REPLICATION**

CELL WALL

CELL MEMBRANE

CYTOSOL

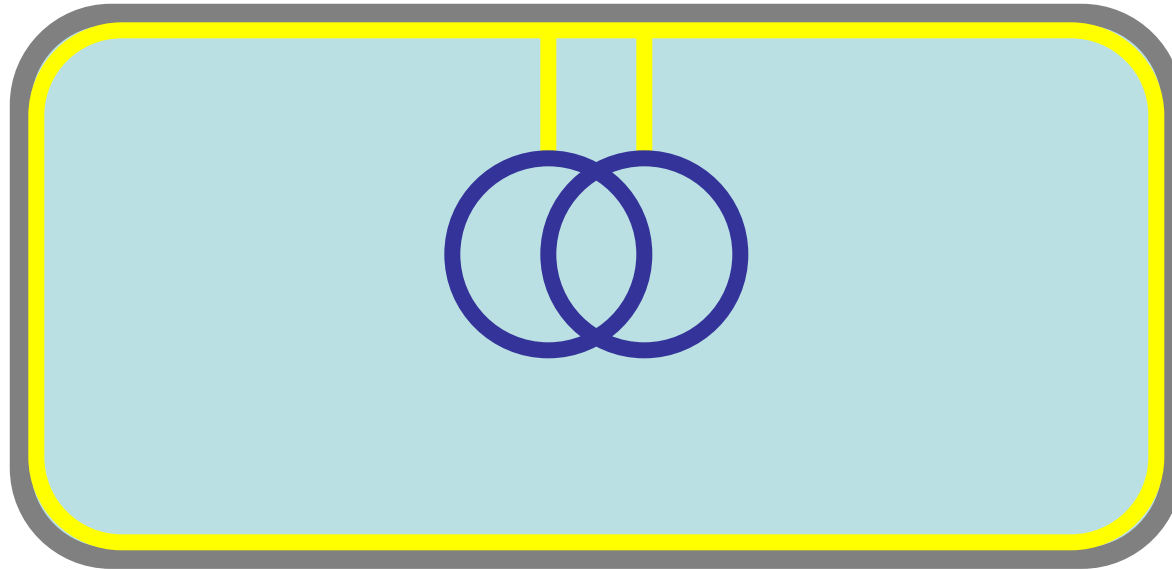
BINARY FISSION MOTHER CELL



**REPLICATED
BACTERIUM
CHROMOSOME**

**REPLICATED
BACTERIUM
CHROMOSOME**

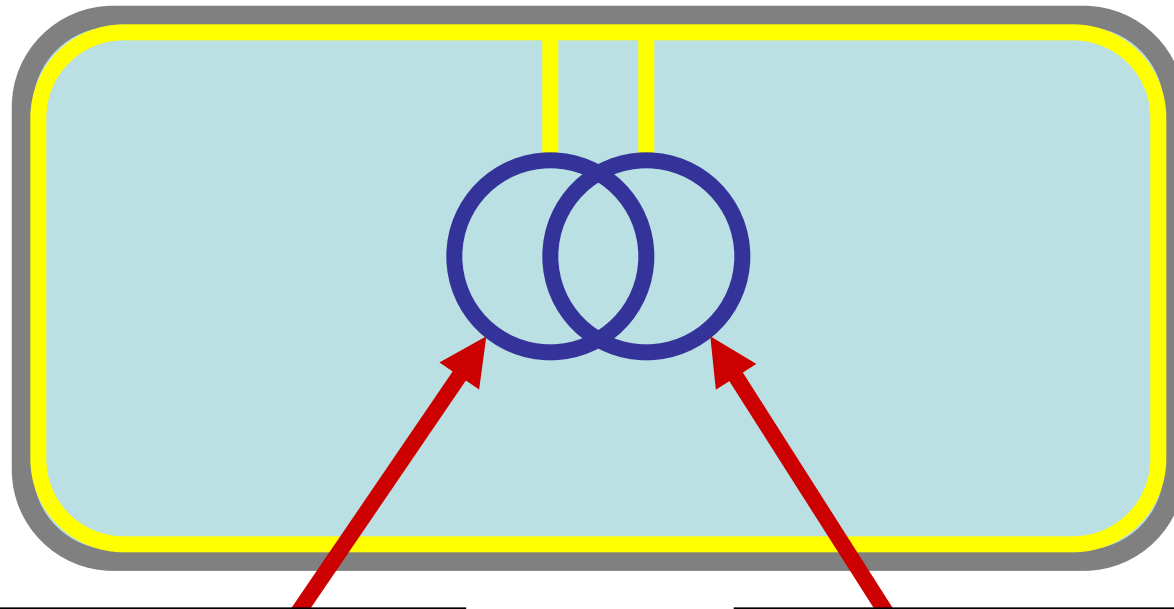
BINARY FISSION MOTHER CELL



DNA CONTENT DOUBLED



BINARY FISSION MOTHER CELL



**CELL MEMBRANE
BACTERIUM
CHROMOSOME
ATTACHED**

**CELL MEMBRANE
BACTERIUM
CHROMOSOME
ATTACHED**

BINARY FISSION MOTHER CELL



**CELL
GROWTH
CELL MEMBRANE
GROWTH**

**CELL
GROWTH
CELL MEMBRANE
GROWTH**

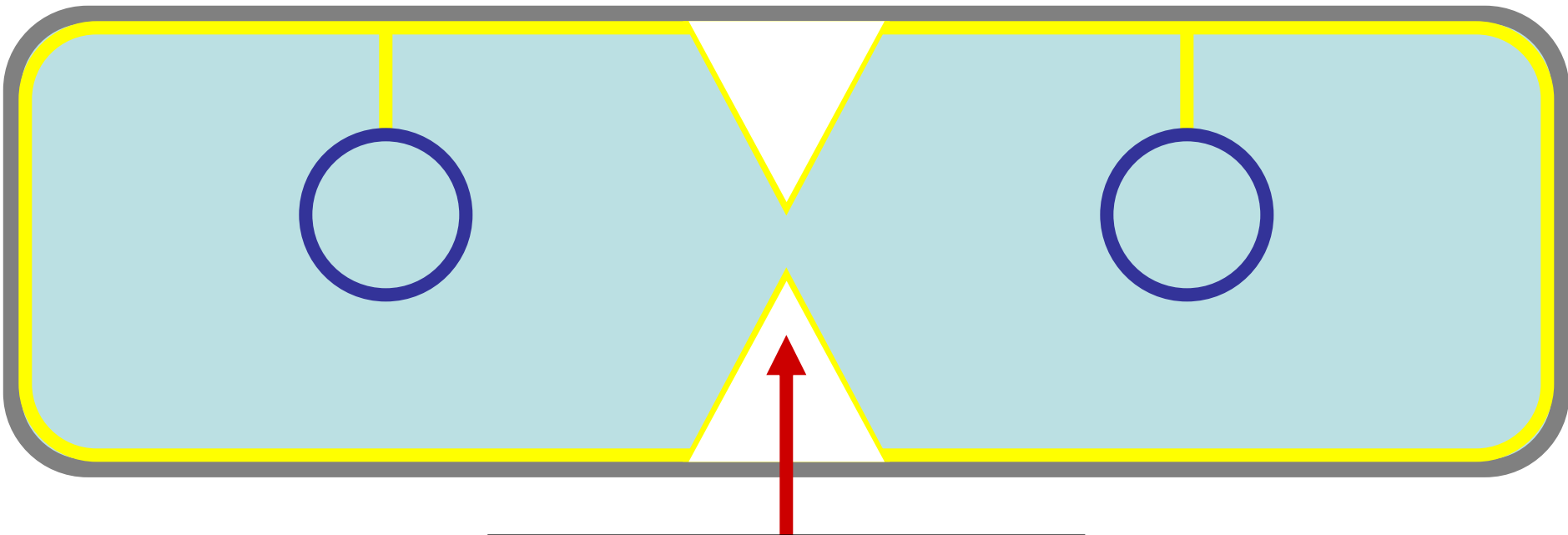
BINARY FISSION MOTHER CELL



**REPLICATED
BACTERIUM
CHROMOSOMES
SEPARATE**

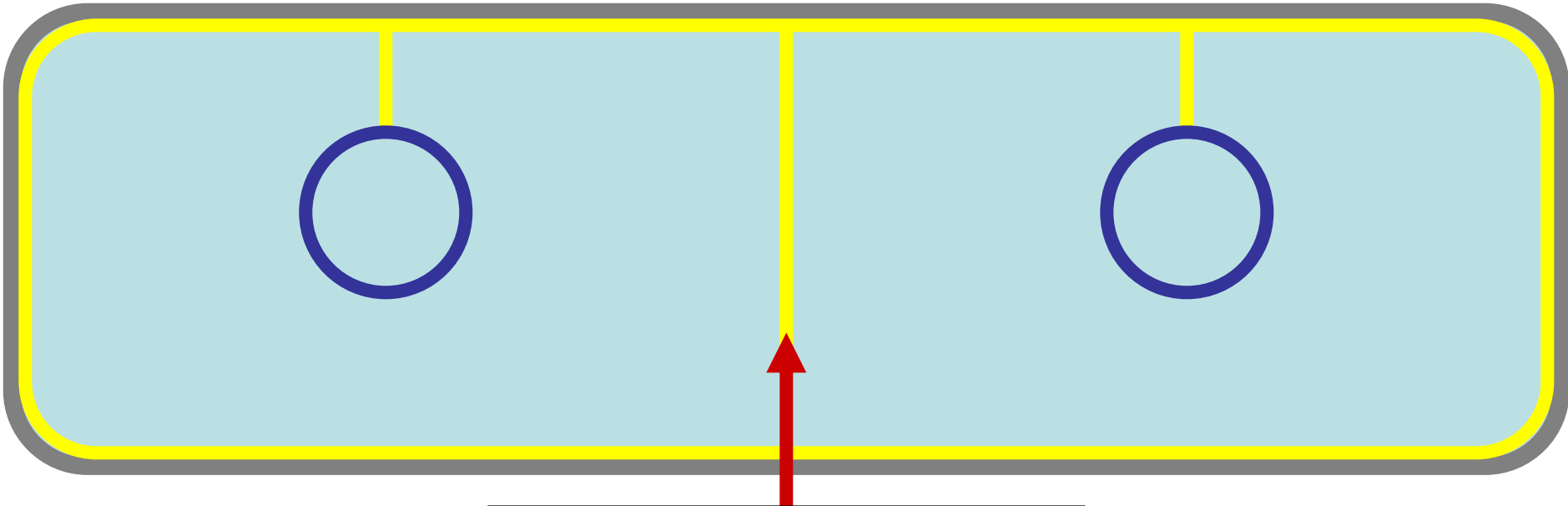
**REPLICATED
BACTERIUM
CHROMOSOMES
SEPARATE**

BINARY FISSION MOTHER CELL



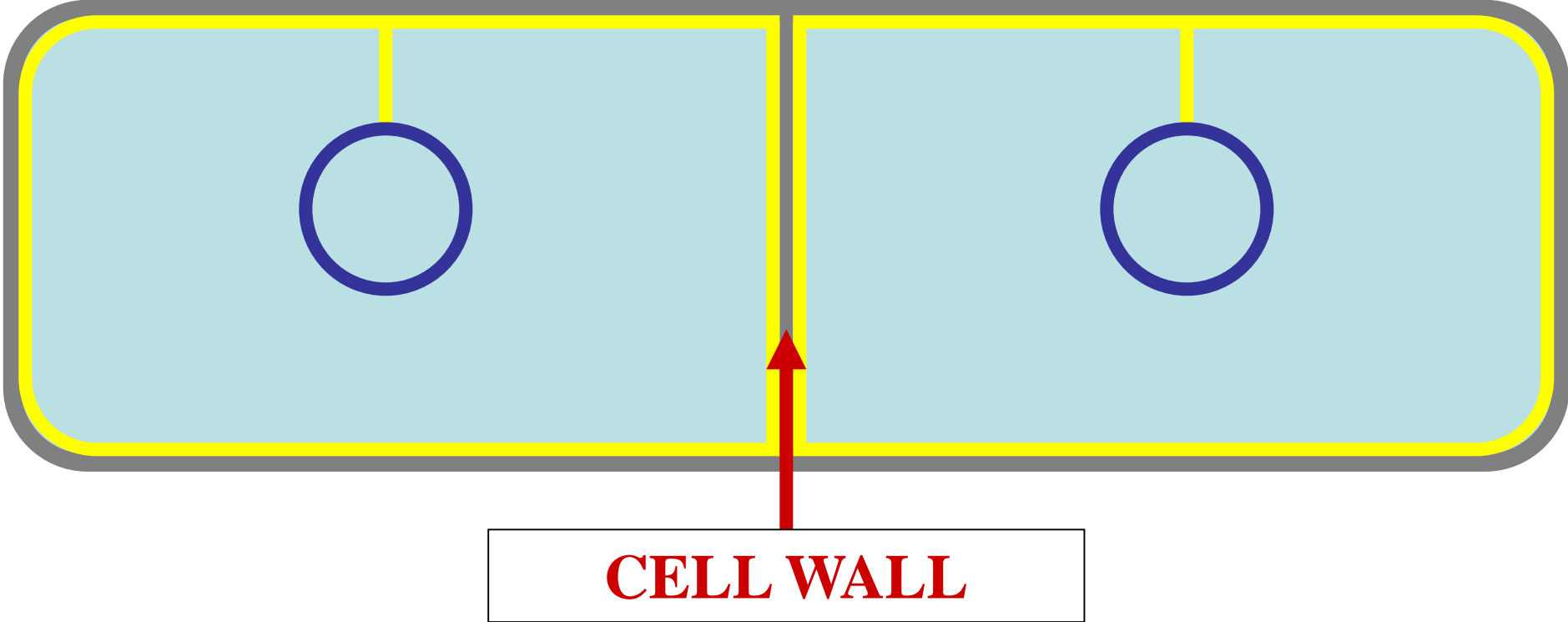
**CELL MEMBRANE
INVAGINATION**

BINARY FISSION MOTHER CELL

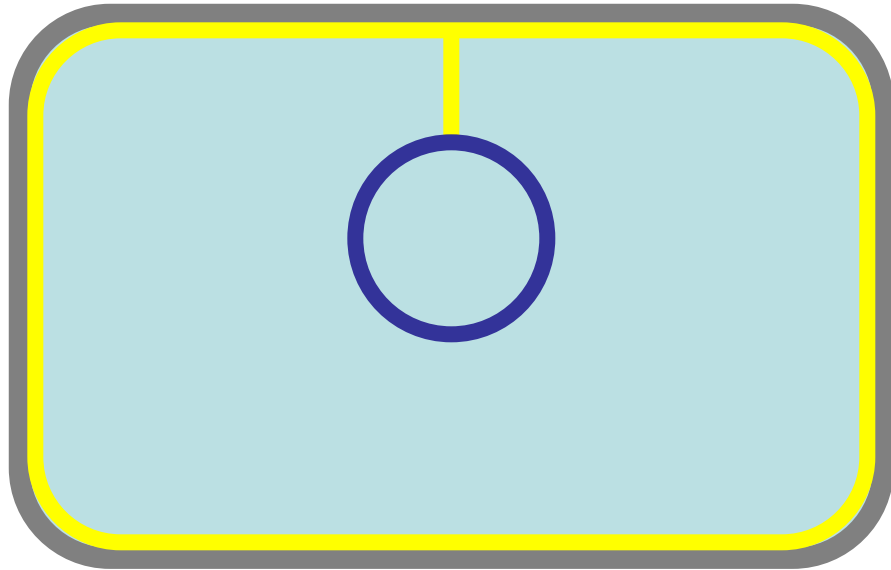


**CELL MEMBRANE
ISOLATES
REPLICATED
CHROMOSOMES**

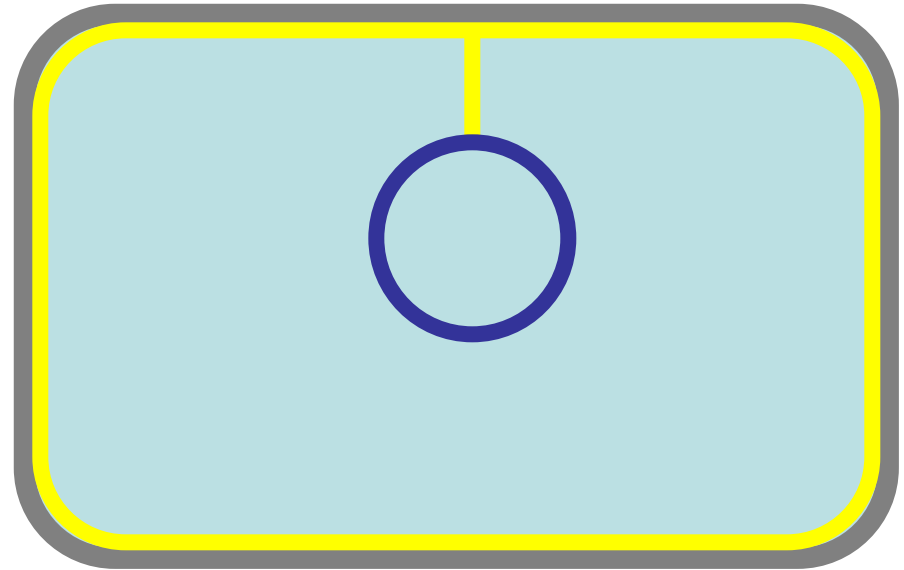
BINARY FISSION MOTHER CELL



BINARY FISSION MOTHER CELL

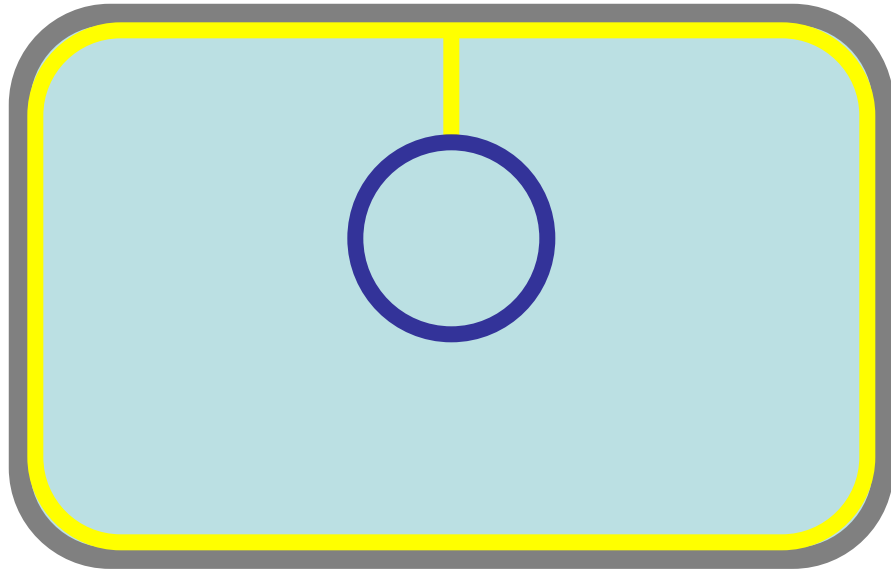


**BACTERIUM
CELL**

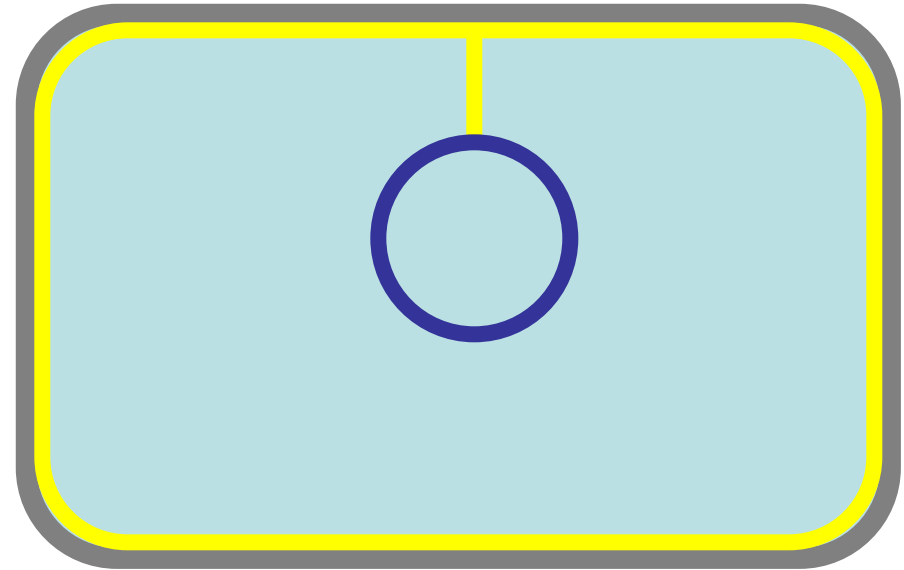


**BACTERIUM
CELL**

BINARY FISSION DAUGHTER CELLS



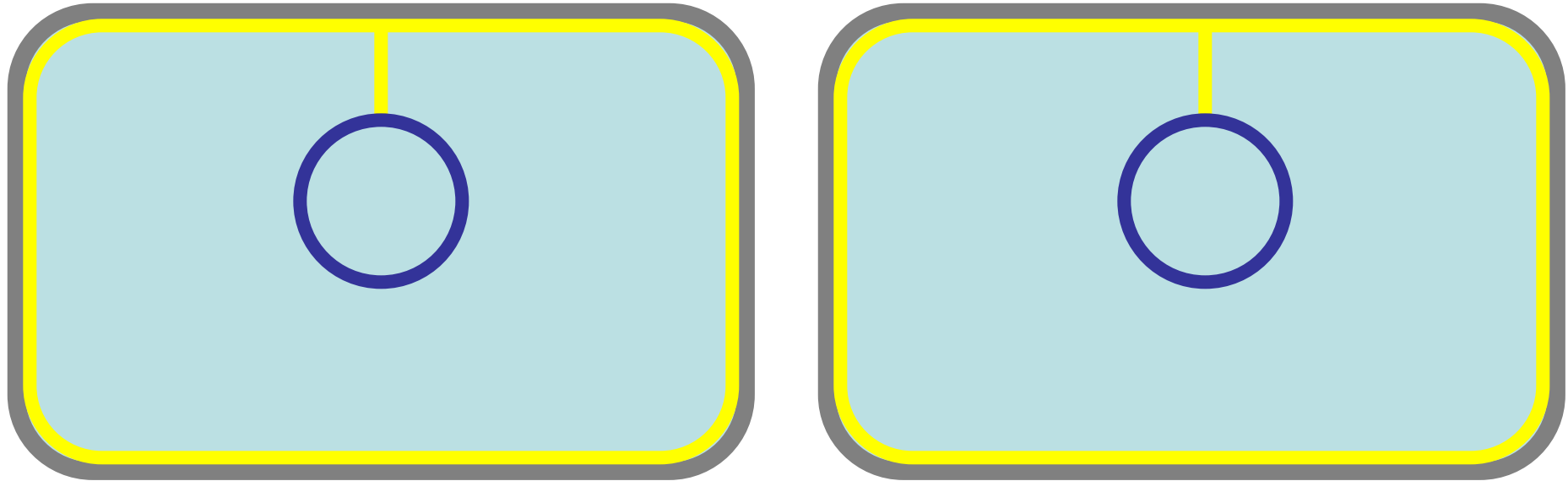
**DAUGHTER
CELL**



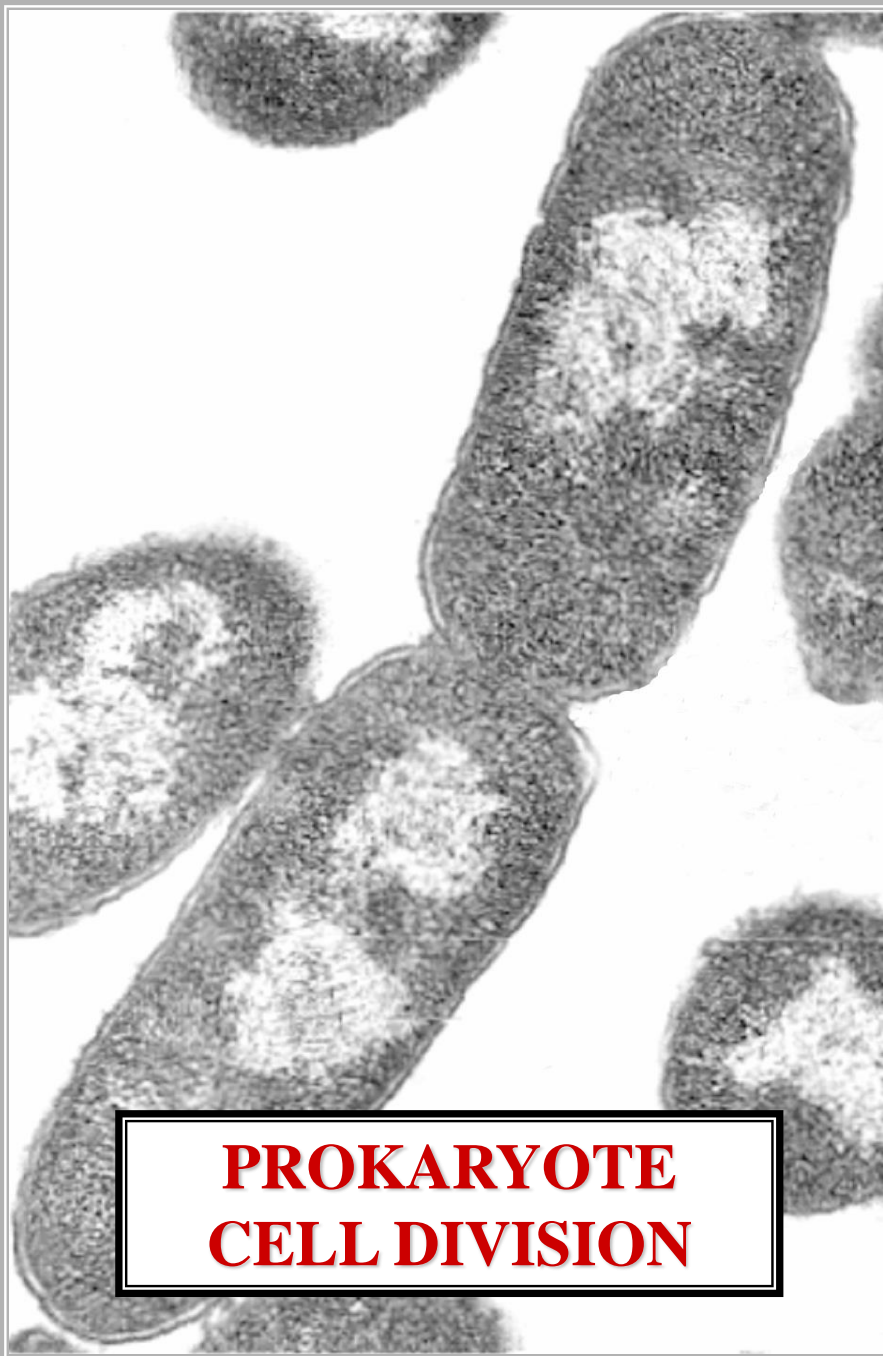
**DAUGHTER
CELL**



BINARY FISSION DAUGHTER CELLS



GENETICALLY IDENTICAL



**PROKARYOTE
CELL DIVISION**



**EUKARYOTE
CELL DIVISION**



EUKARYOTE CELL DIVISION

EUKARYOTE CELL CYCLE

EUKARYOTE CELL CYCLE



EUKARYOTE CELL CYCLE

SEQUENCED STAGES

EUKARYOTE CELL CYCLE

EUKARYOTE CELL CYCLE STAGES

**EUKARYOTE
CELL CYCLE STAGES**

INTERPHASE

**EUKARYOTE
CELL CYCLE STAGES**

**EUKARYOTE
CELL CYCLE STAGES**

**INTERPHASE
KARYOKINESIS**

**EUKARYOTE
CELL CYCLE STAGES**

EUKARYOTE CELL CYCLE STAGES

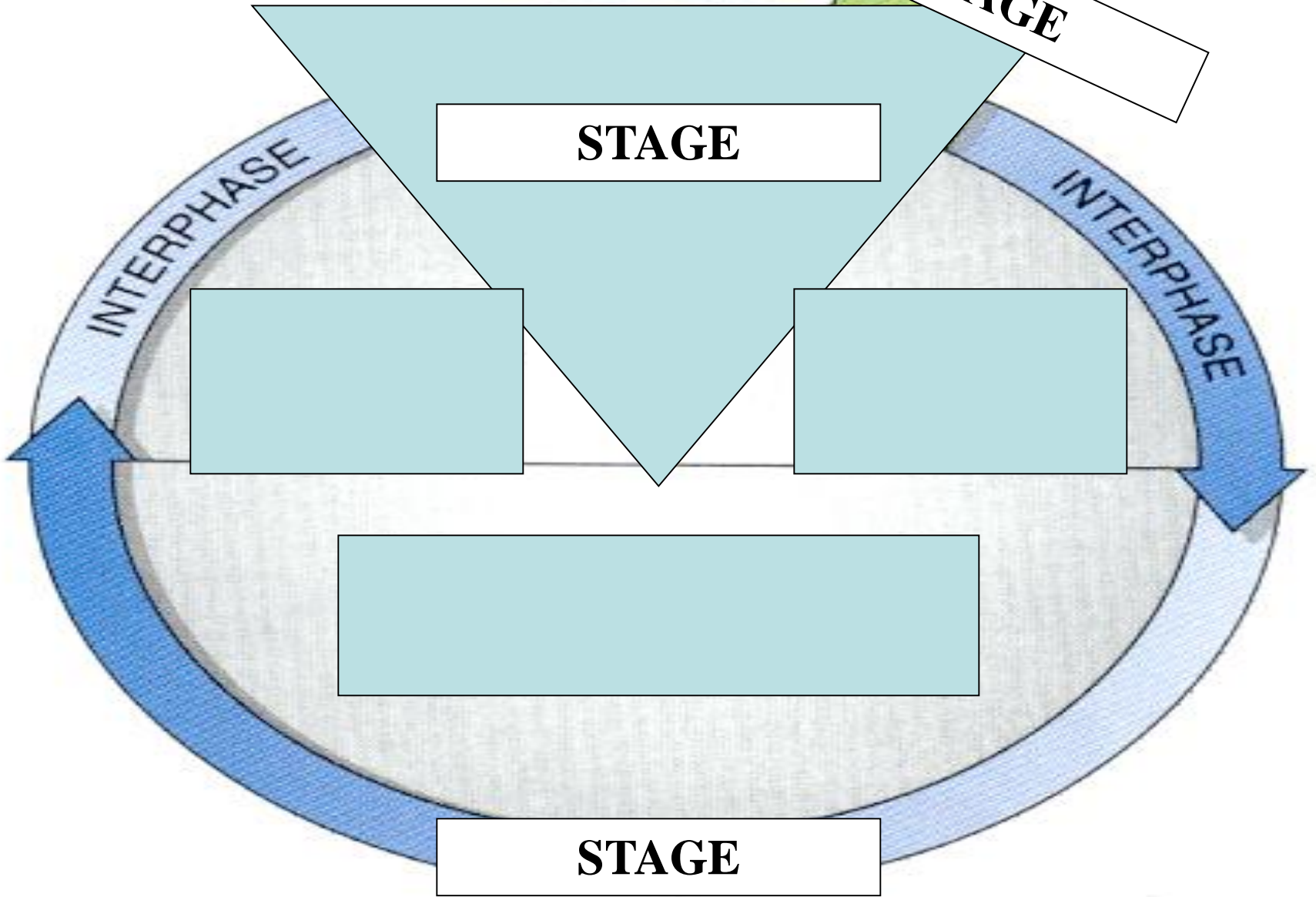


**INTERPHASE
KARYOKINESIS
CYTOKINESIS**

**EUKARYOTE
CELL CYCLE STAGES**

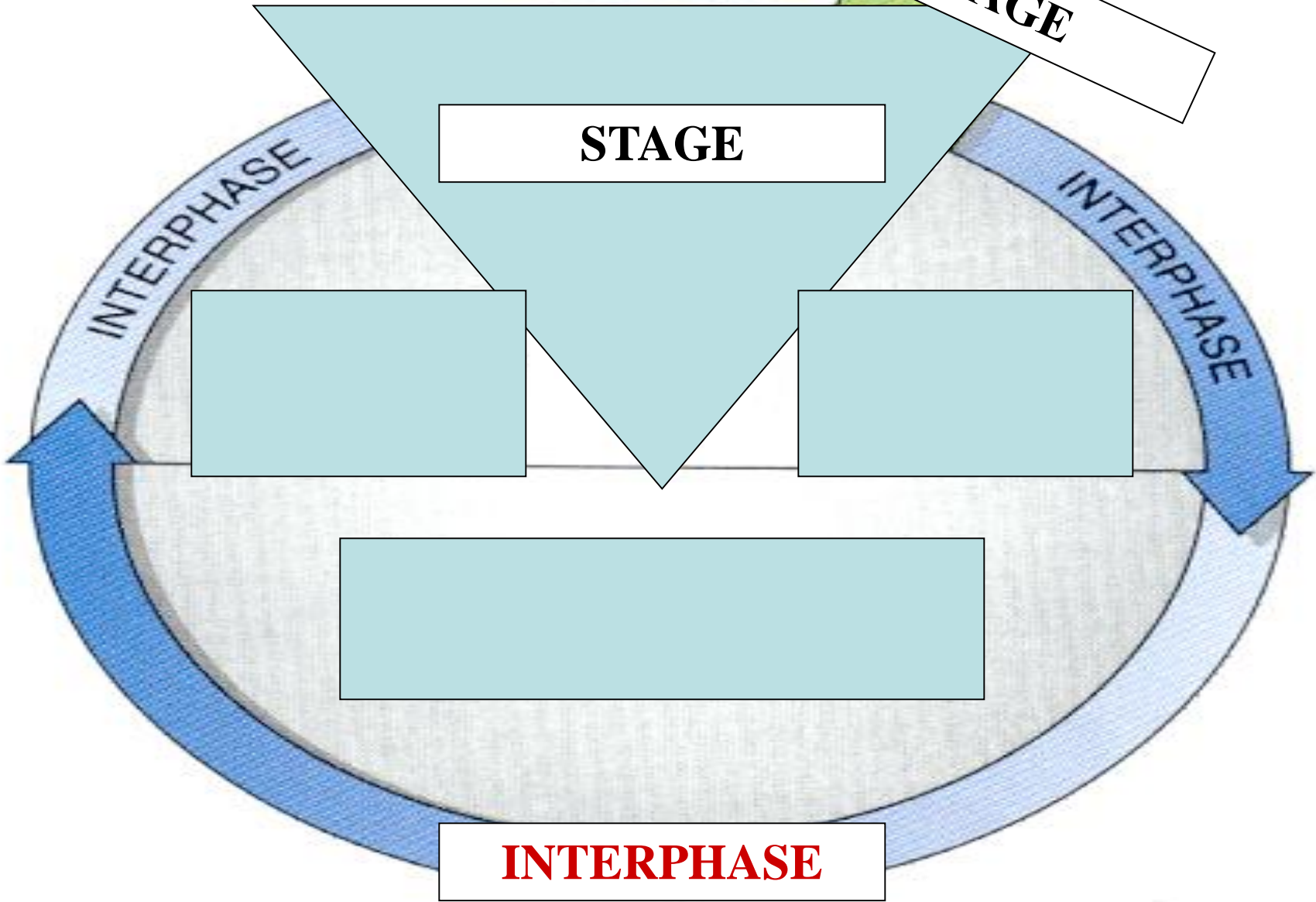
CELL CYCLE

I



CELL CYCLE

K



CELL CYCLE

C

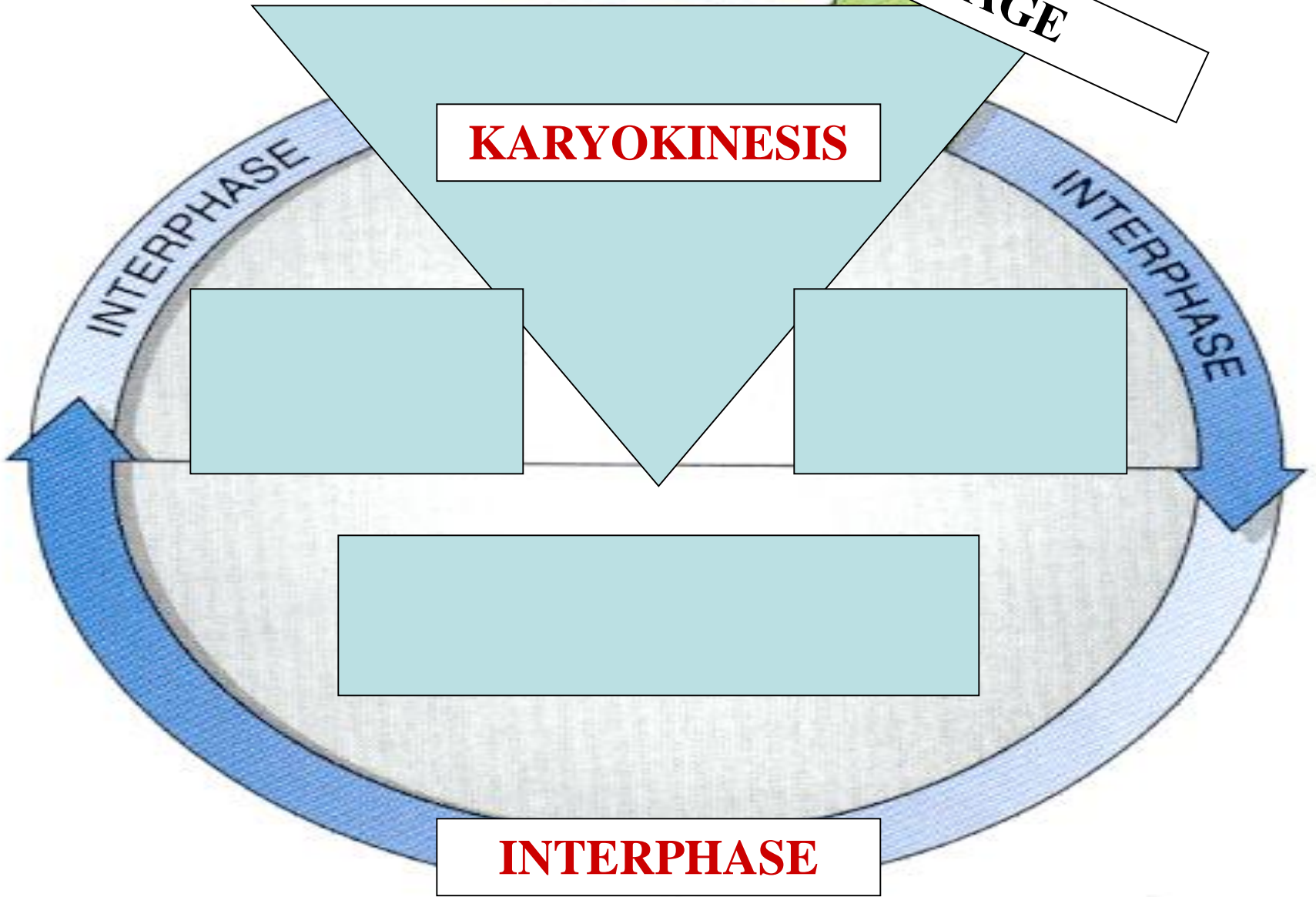
STAGE

KARYOKINESIS

INTERPHASE

INTERPHASE

INTERPHASE



CELL CYCLE

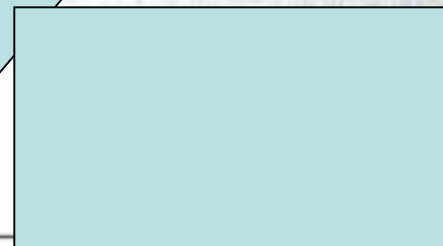
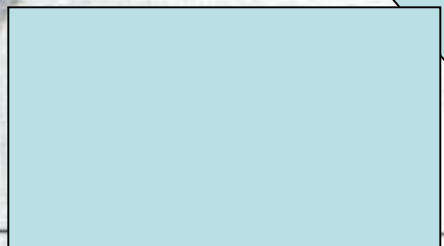


CYTOKINESIS

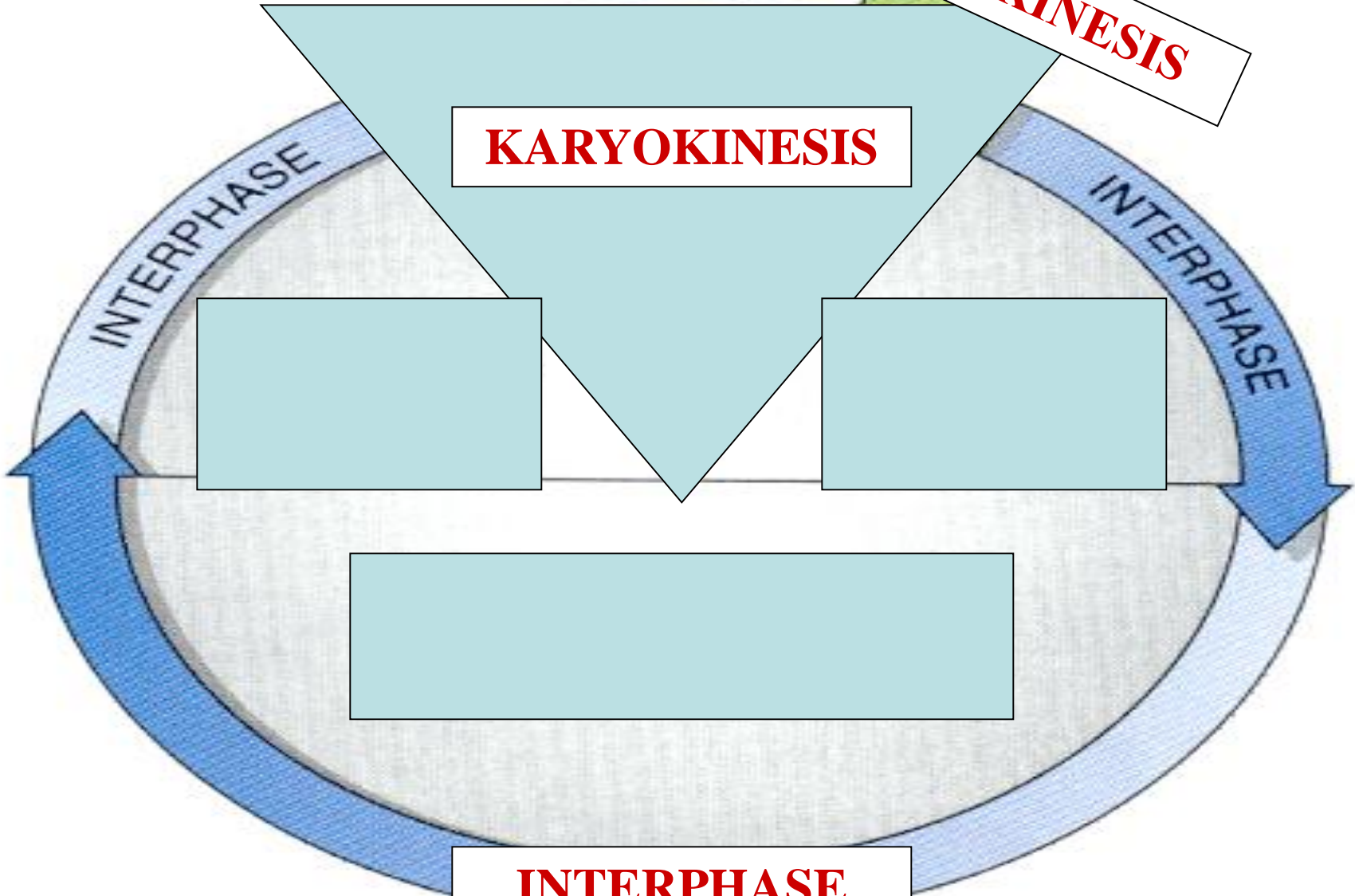
KARYOKINESIS

INTERPHASE

INTERPHASE

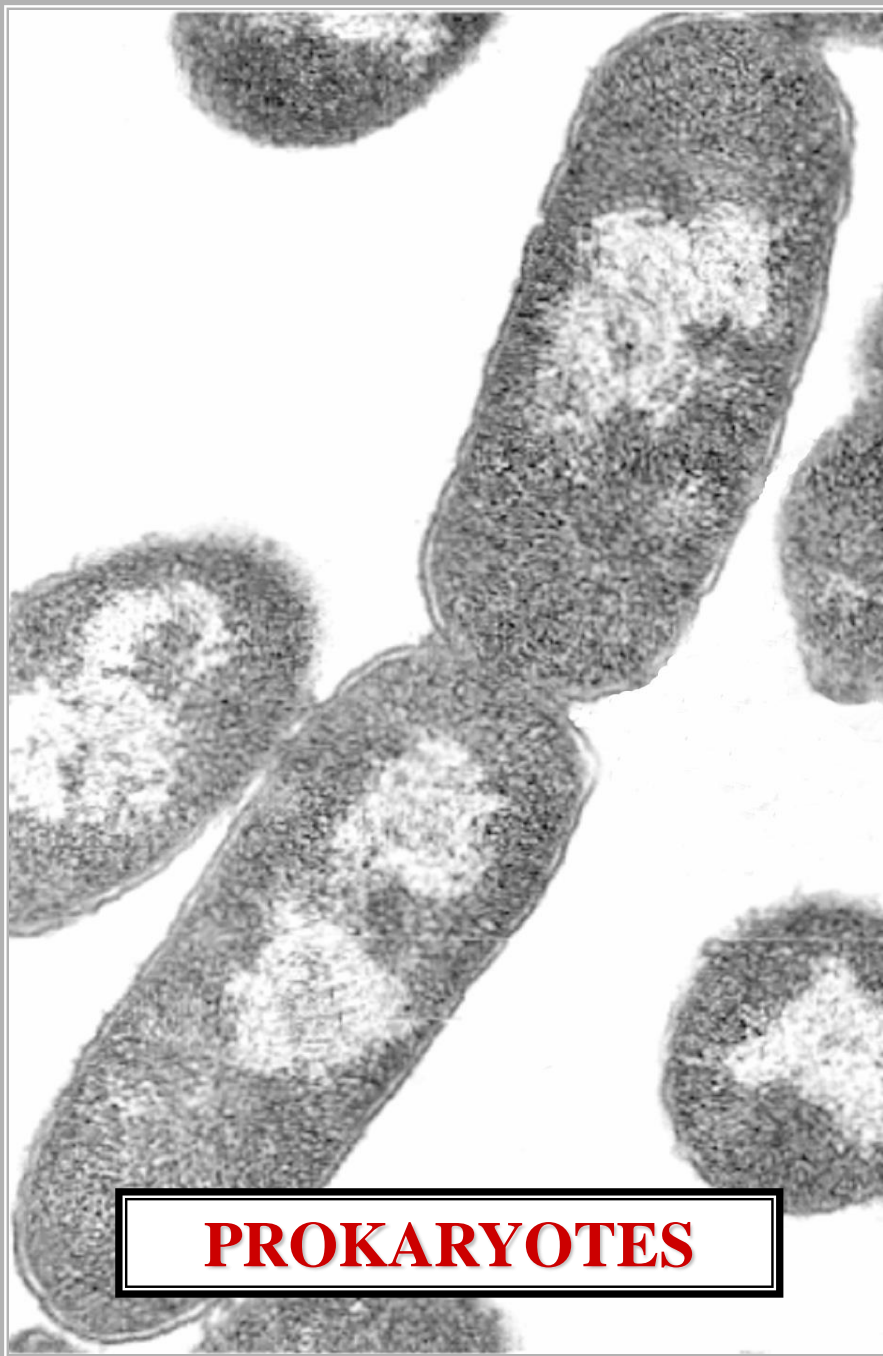


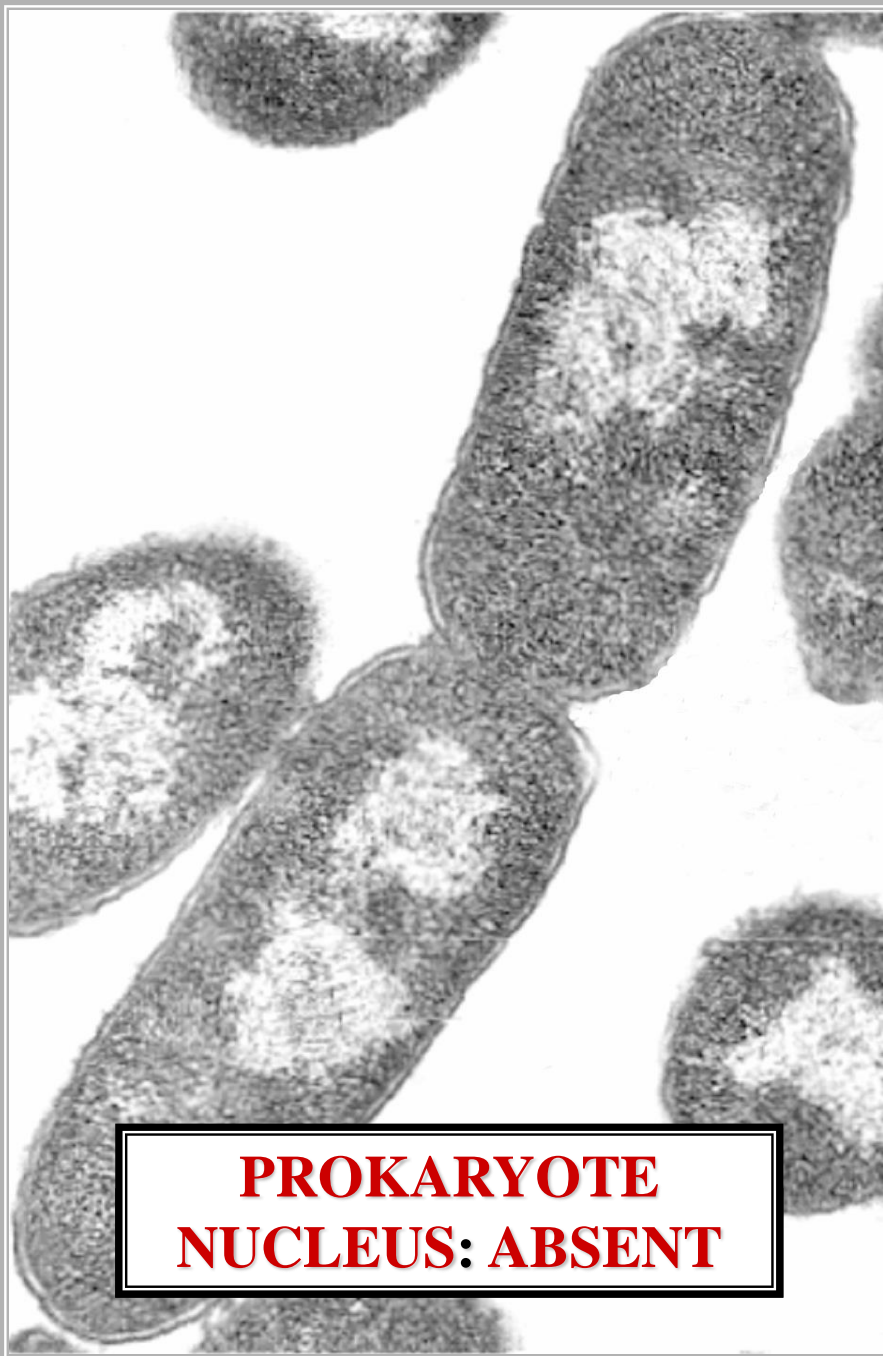
INTERPHASE





KARYOKINESIS

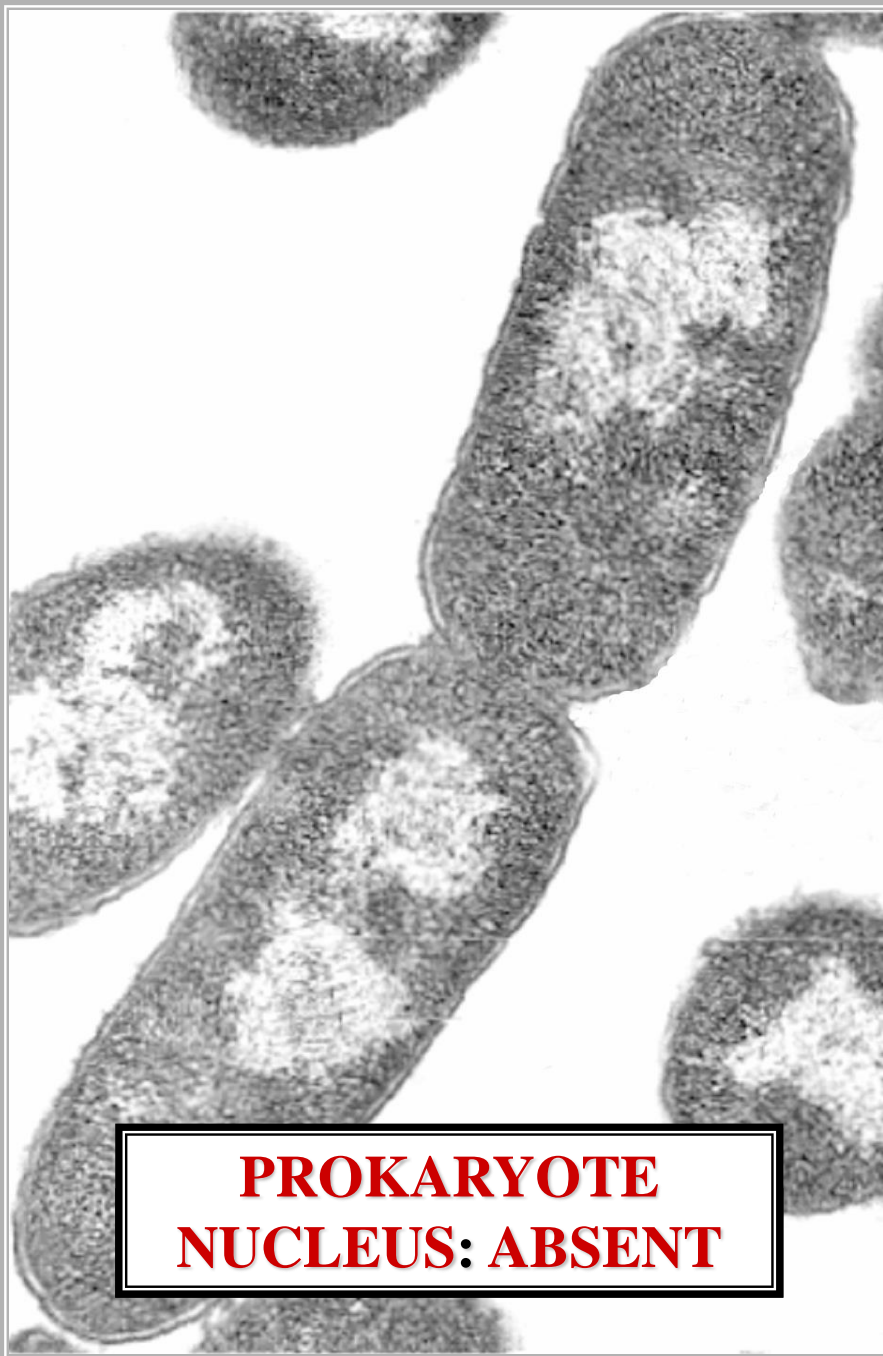




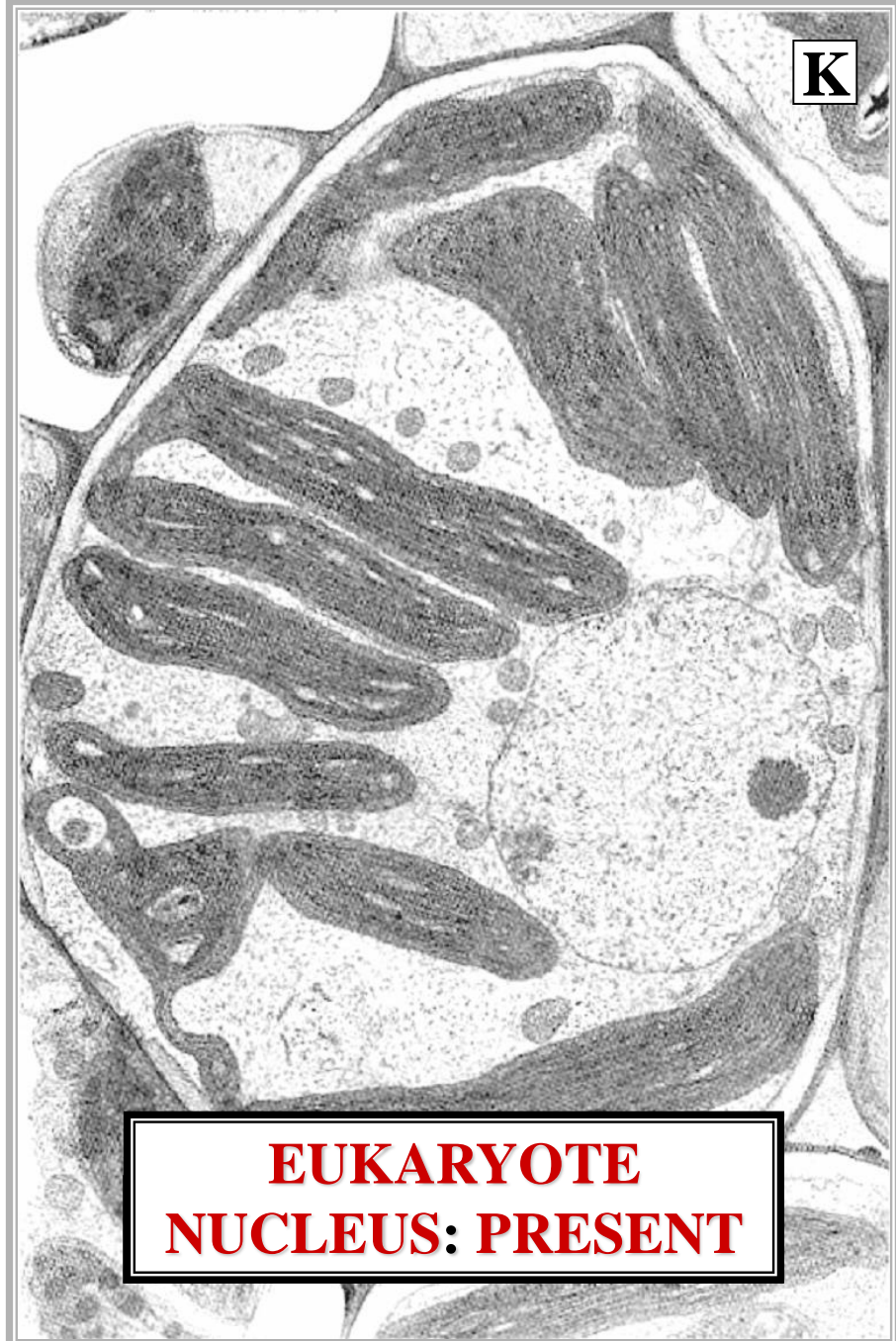
**PROKARYOTE
NUCLEUS: ABSENT**



EUKARYOTES



**PROKARYOTE
NUCLEUS: ABSENT**



**EUKARYOTE
NUCLEUS: PRESENT**

KARYOKINESIS



KARYOKINESIS

NUCLEUS DIVISION

KARYOKINESIS

KARYOKINESIS TYPES

**EUKARYOTE
KARYOKINESIS
TYPES**

MITOSIS

**EUKARYOTE
KARYOKINESIS
TYPES**

**EUKARYOTE
KARYOKINESIS
TYPES**

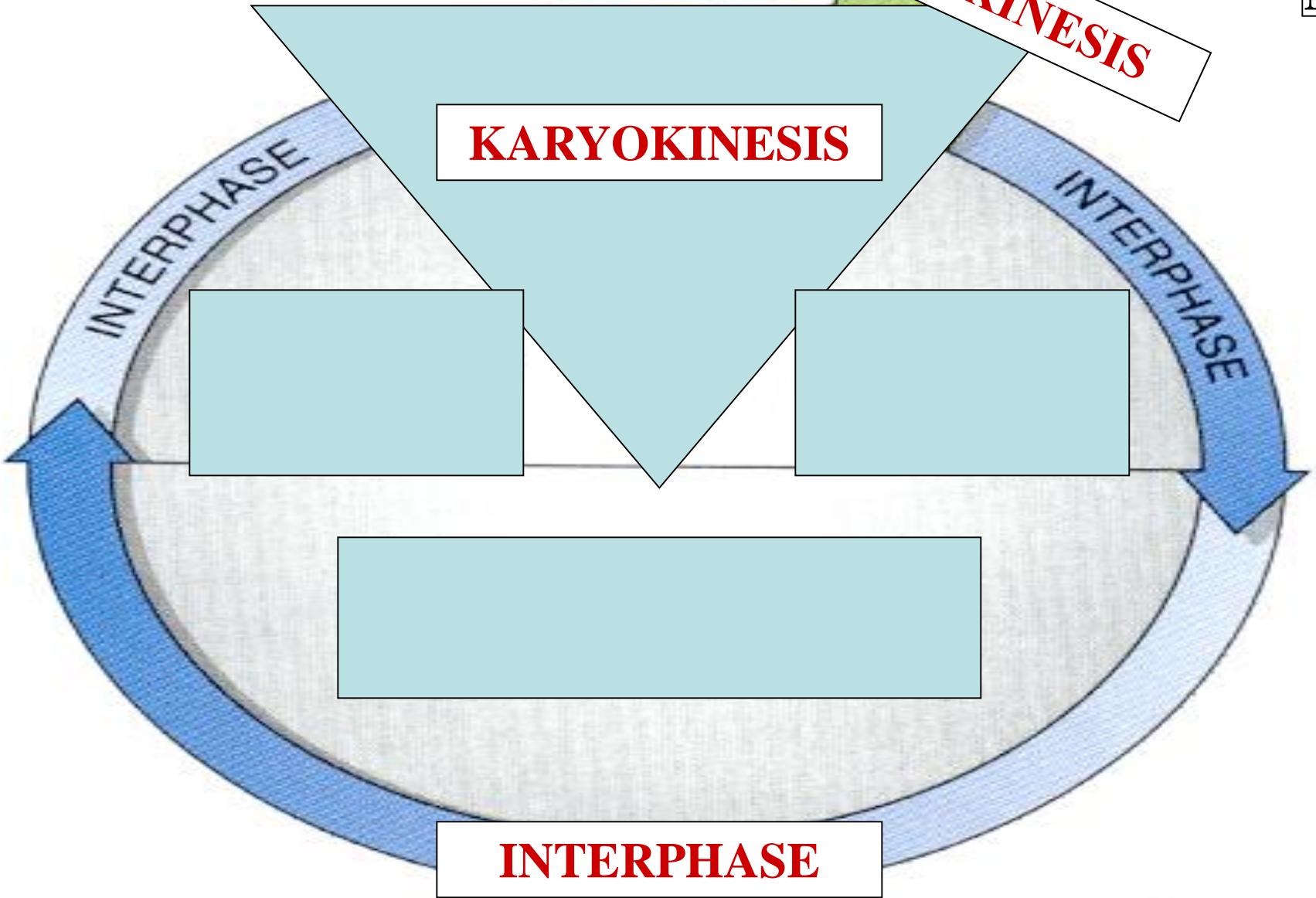


**MITOSIS
MEIOSIS**

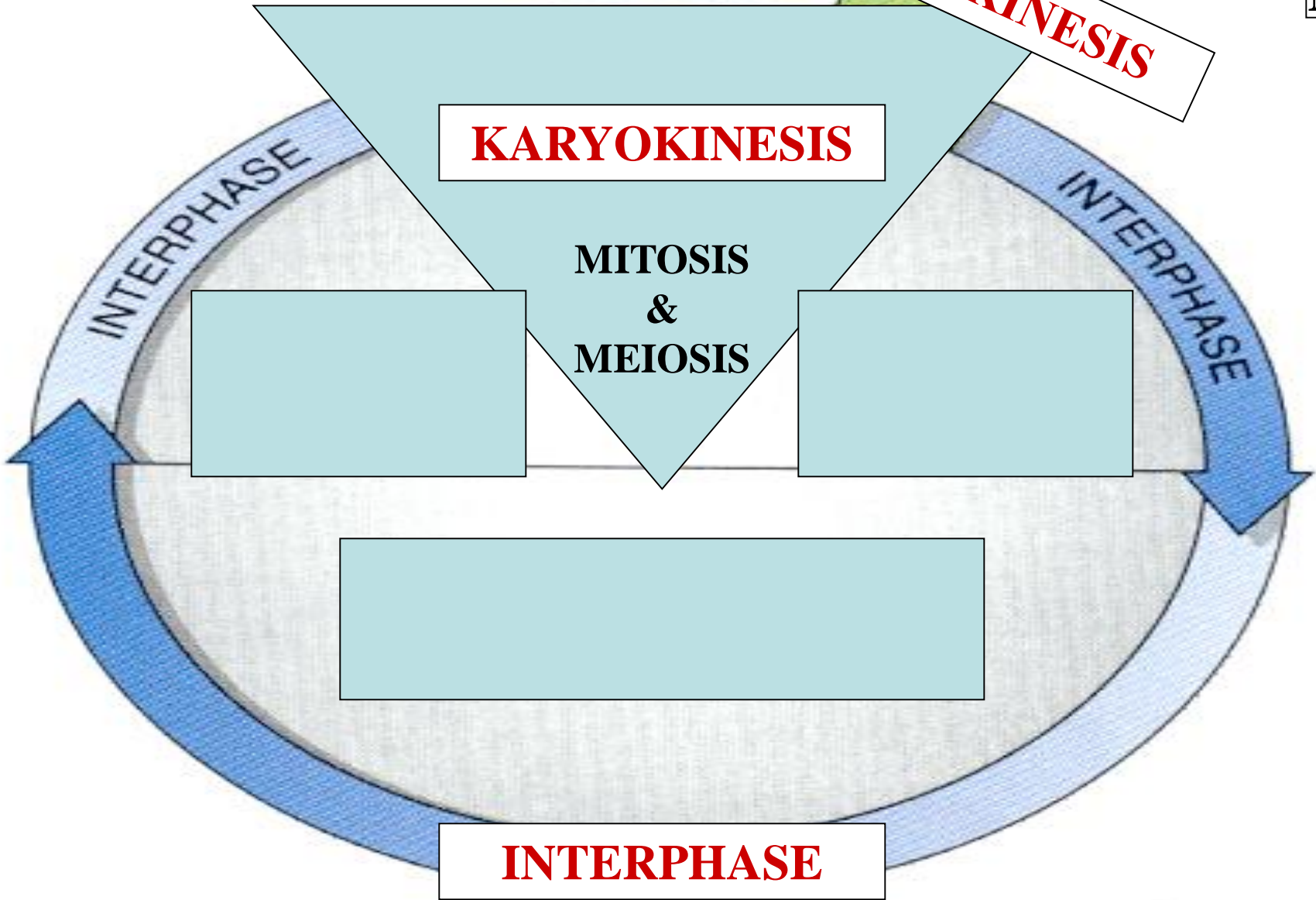
**EUKARYOTE
KARYOKINESIS
TYPES**

CELL CYCLE

M
M



CELL CYCLE





MITOSIS

QUESTION

DURING MITOSIS DOES
CHROMOSOME
NUMBER
REDUCTION OCCUR?

QUESTION

ANSWER



NO

ANSWER

HUMAN GENOME

#



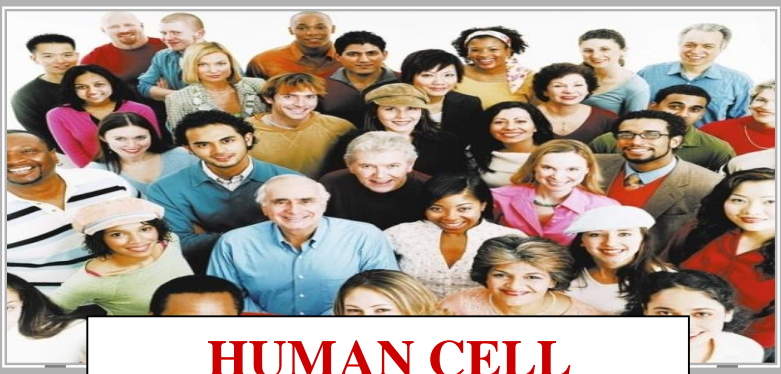
HOMO SAPIENS

HUMAN GENOME

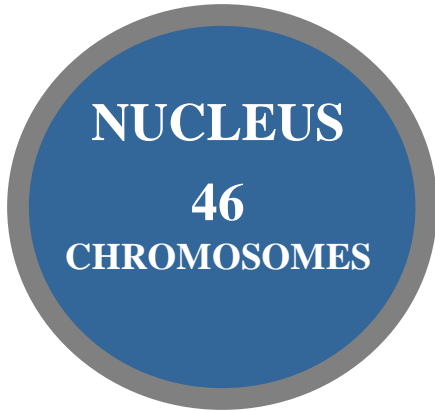


HOMO SAPIENS

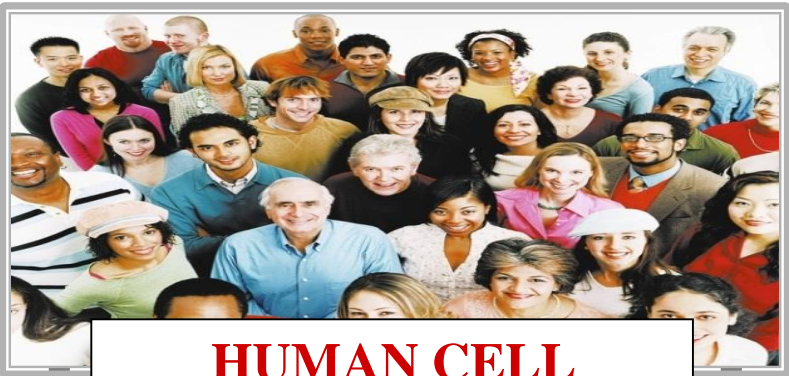




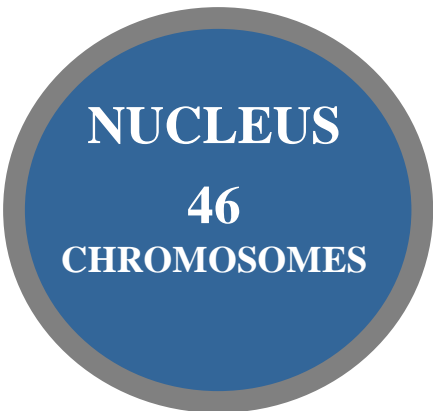
HUMAN CELL



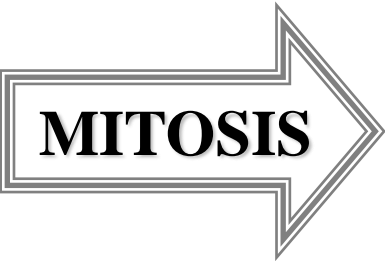
HUMAN CELL



HUMAN CELL



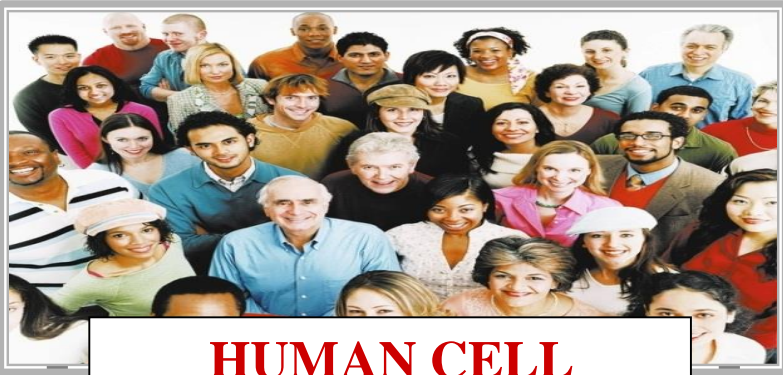
NUCLEUS
46
CHROMOSOMES



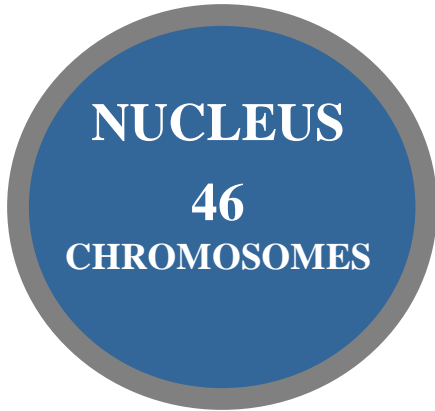
MITOSIS

**NO CHROMOSOME
REDUCTION**

HUMAN CELL

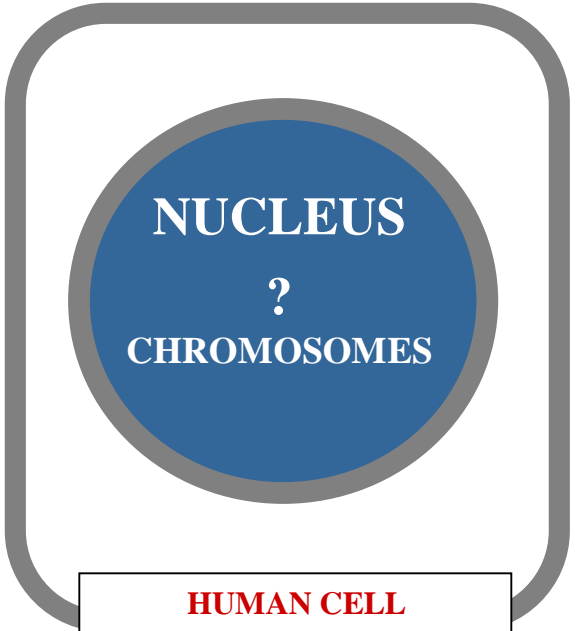
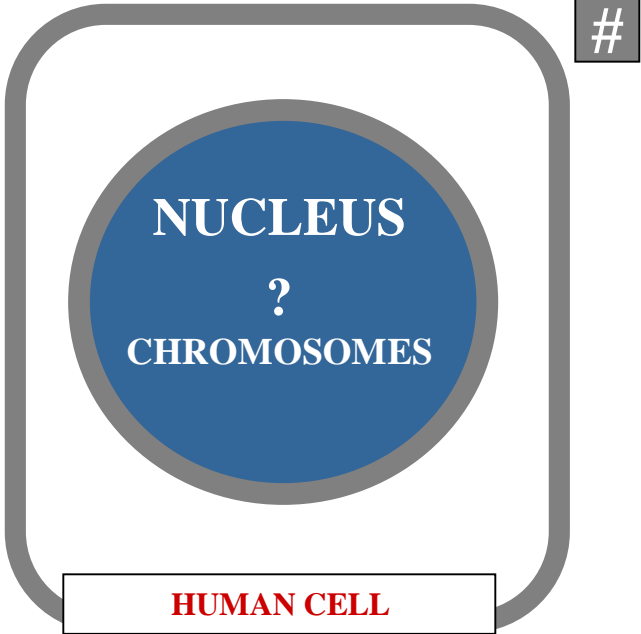
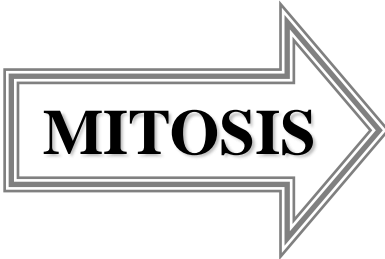


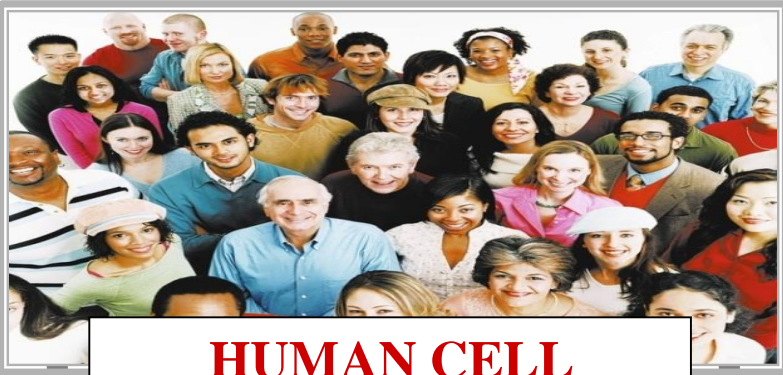
HUMAN CELL



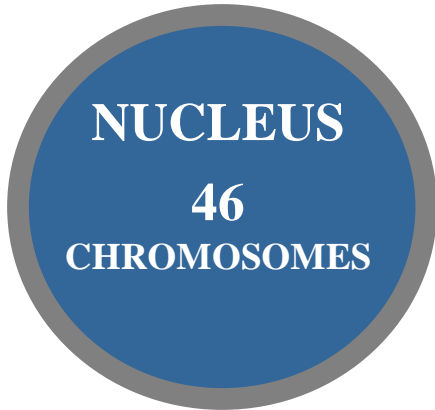
**NO CHROMOSOME
REDUCTION**

HUMAN CELL



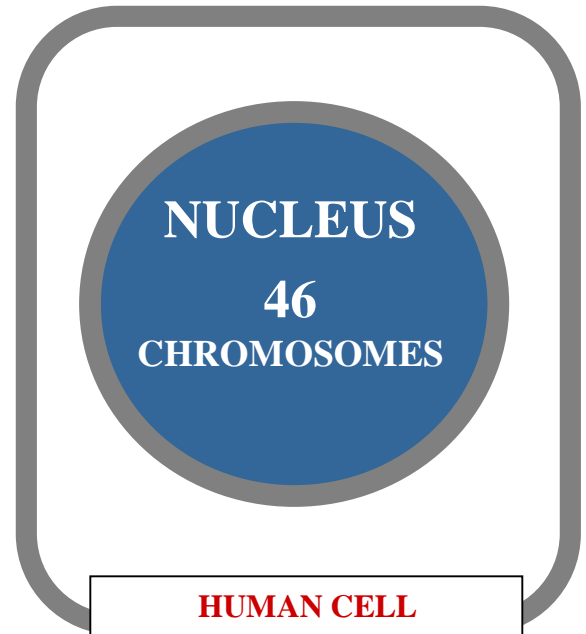
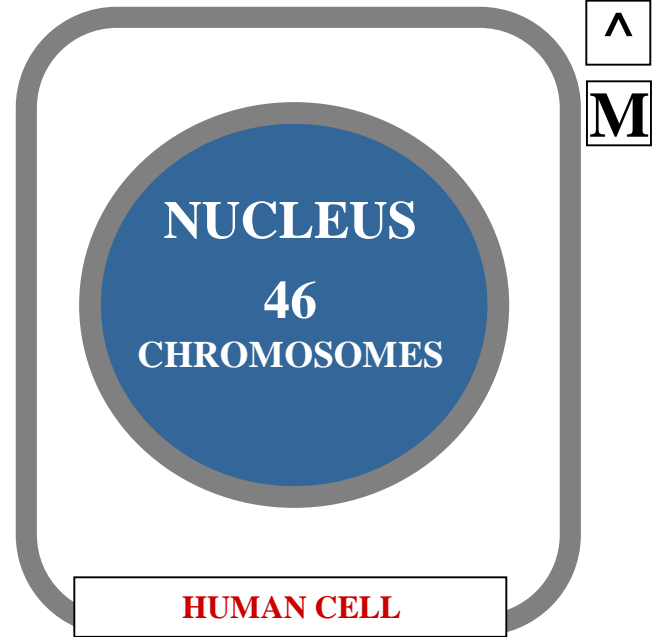
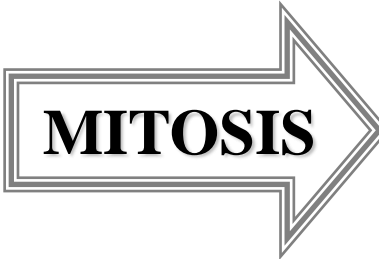


HUMAN CELL



**NO CHROMOSOME
REDUCTION**

HUMAN CELL





MEIOSIS

QUESTION

DURING MEIOSIS DOES
CHROMOSOME
NUMBER
REDUCTION OCCUR?

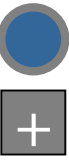
QUESTION

ANSWER

YES

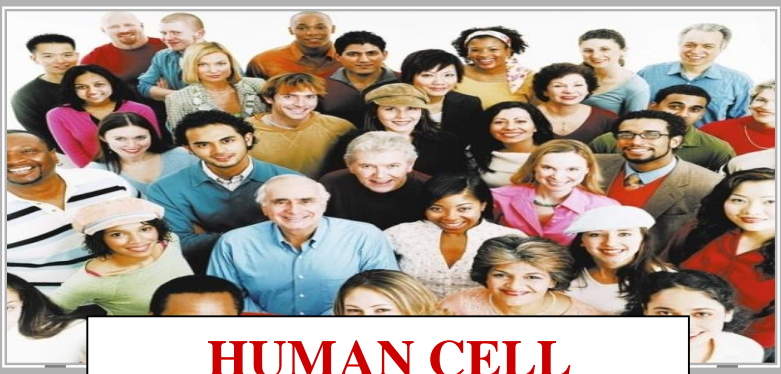
ANSWER

ANSWER

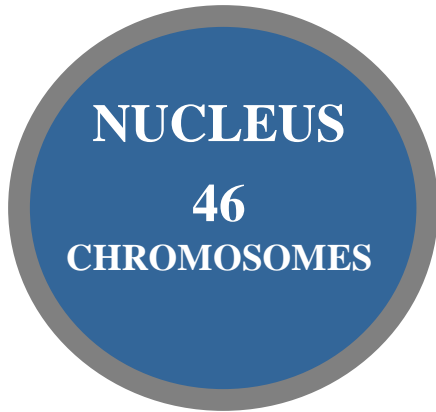


**DURING MEIOSIS
CHROMOSOME
NUMBER REDUCED
BY 1/2**

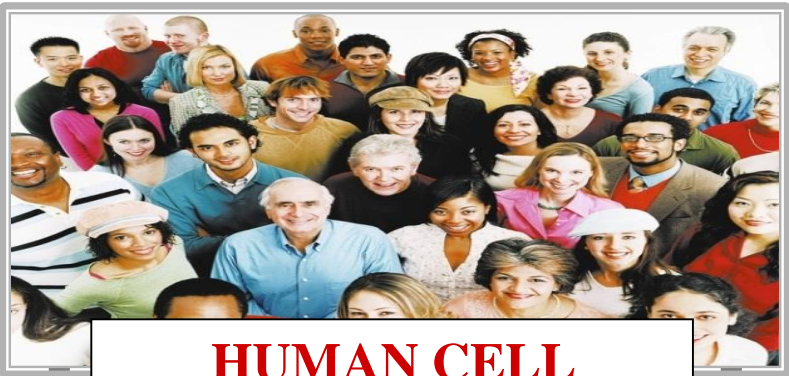
ANSWER



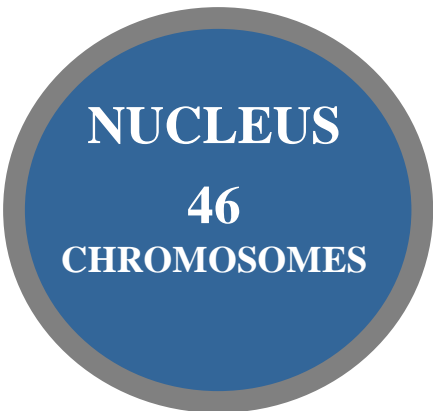
HUMAN CELL



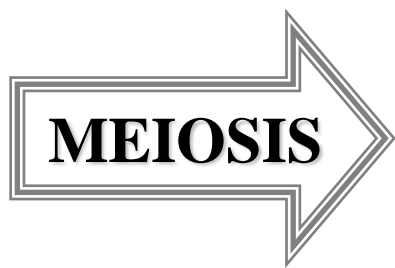
HUMAN CELL



HUMAN CELL



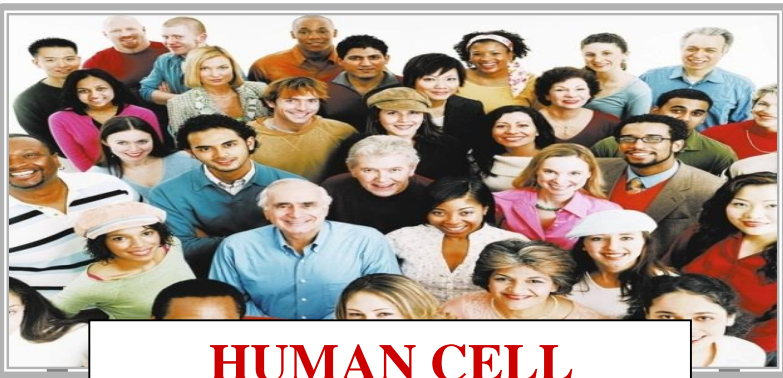
NUCLEUS
46
CHROMOSOMES



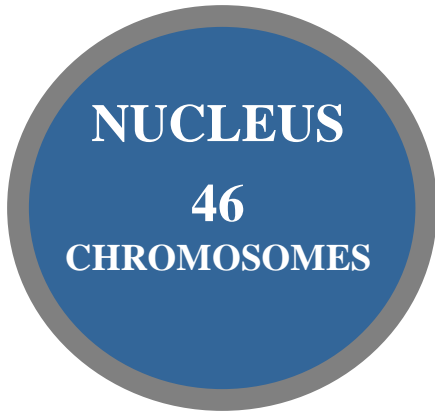
MEIOSIS

**YES CHROMOSOME
REDUCTION**

HUMAN CELL

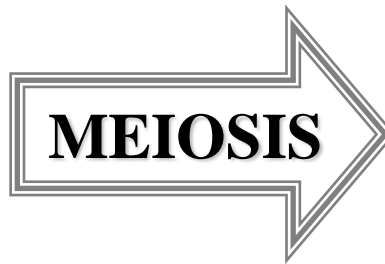


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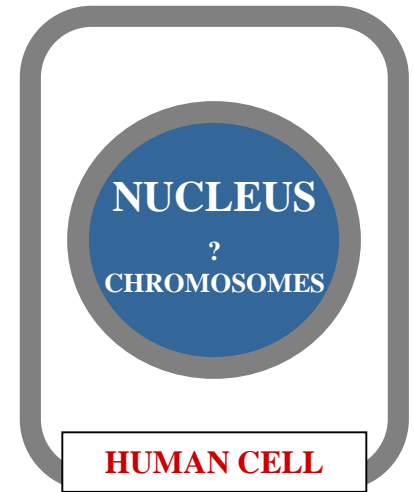
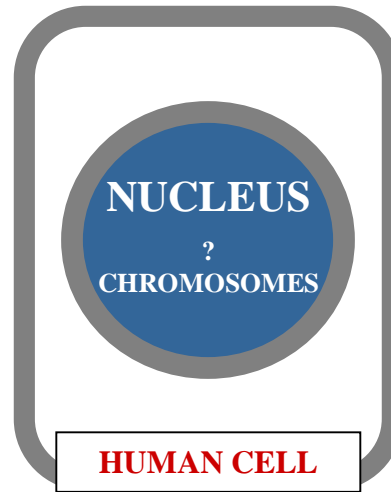
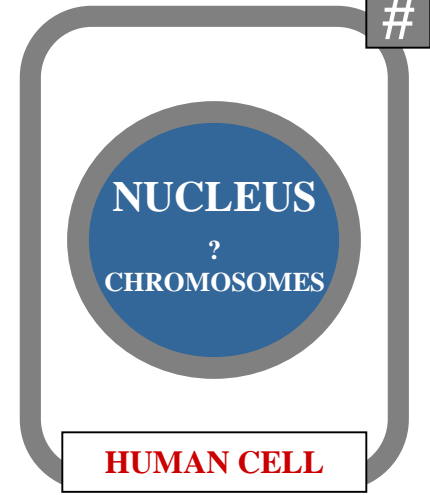
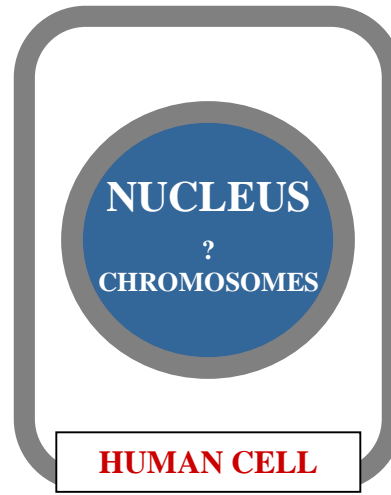


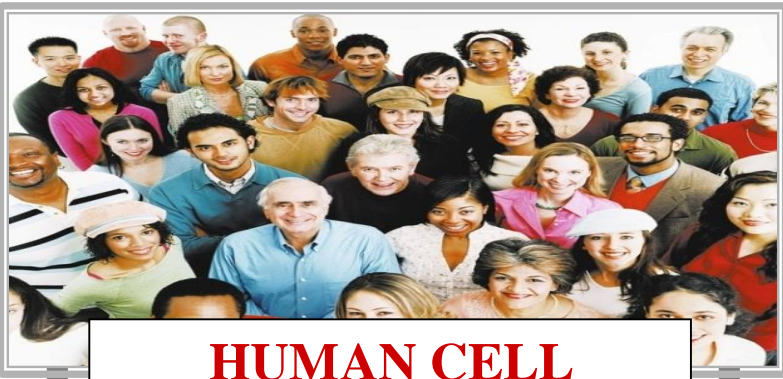
**YES CHROMOSOME
REDUCTION**

HUMAN CELL

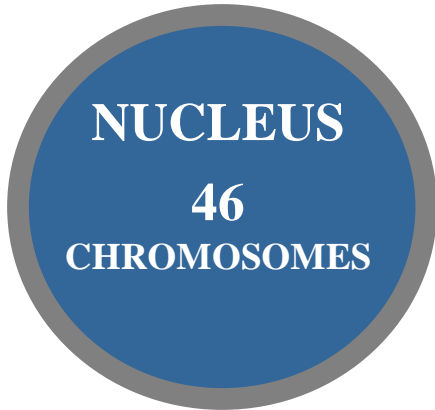


1/2 REDUCTION



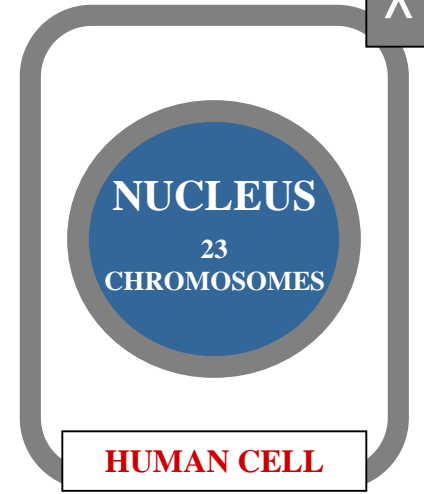
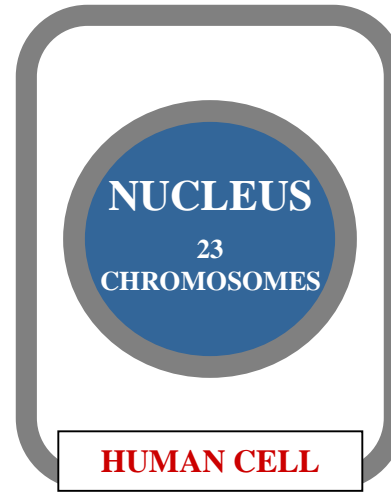
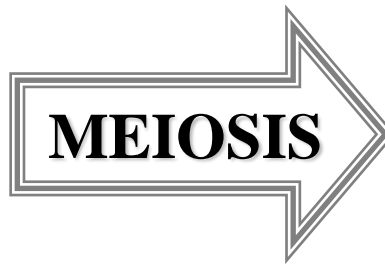


HUMAN CELL

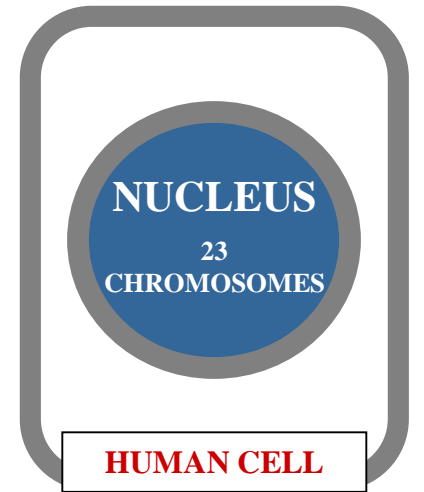
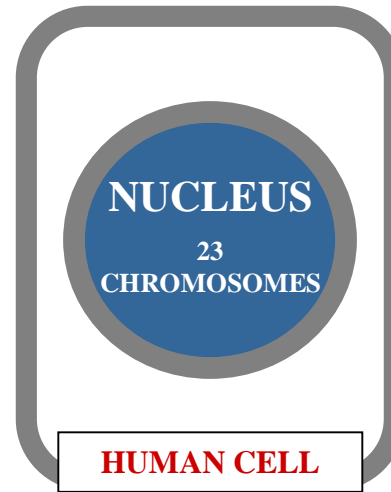


**YES CHROMOSOME
REDUCTION**

HUMAN CELL



1/2 REDUCTION





MITOSIS

SOMATIC CELL

SOMATIC CELL

SOMATIC CELL



**UNDERGOES MITOSIS
ONLY**

SOMATIC CELL



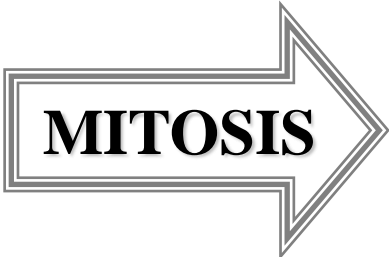
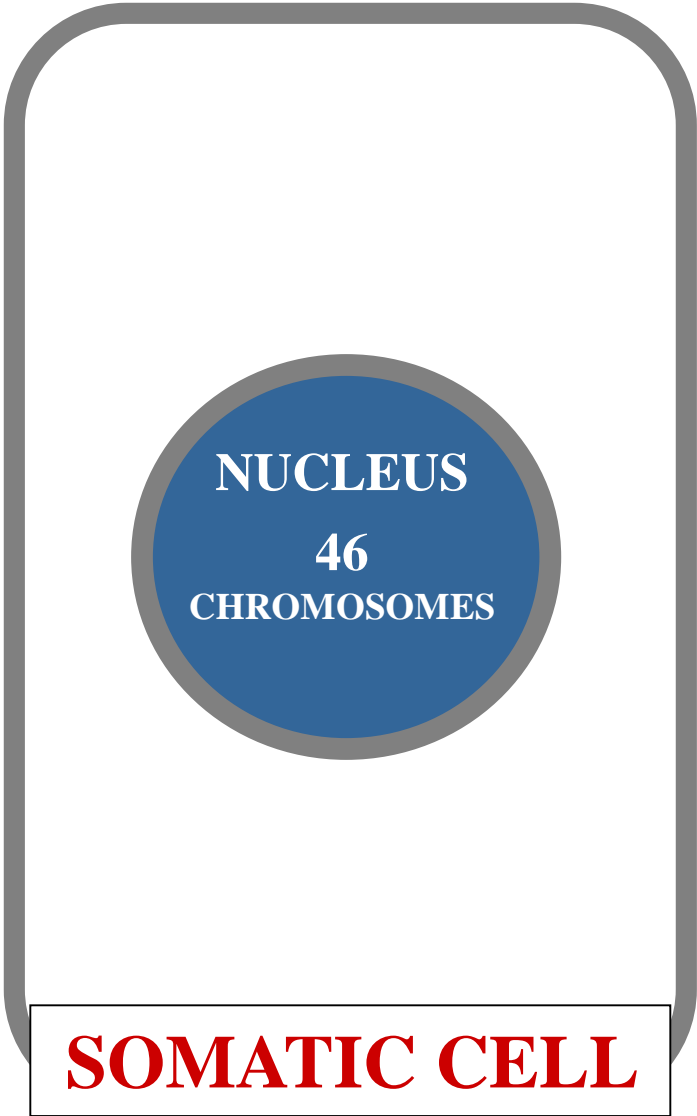
The diagram shows a large, vertically oriented rounded rectangle representing a somatic cell. Inside this rectangle, centered, is a smaller blue circle representing the nucleus. The nucleus contains the text 'NUCLEUS', '46', and 'CHROMOSOMES'. At the bottom of the cell rectangle, there is a white rectangular box containing the text 'SOMATIC CELL' in red.

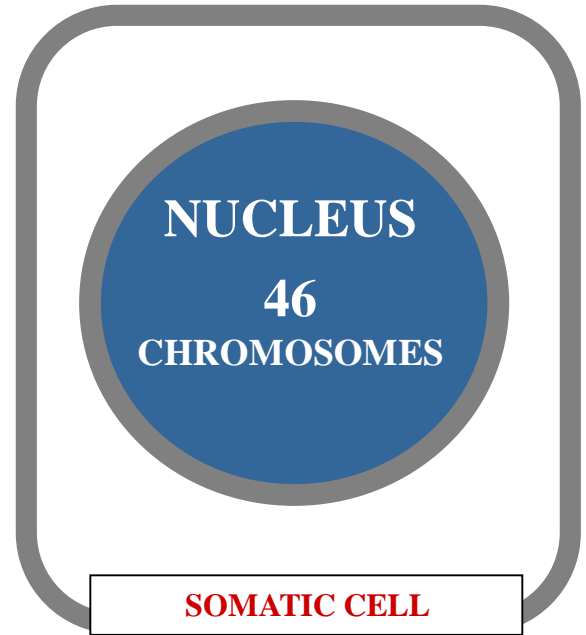
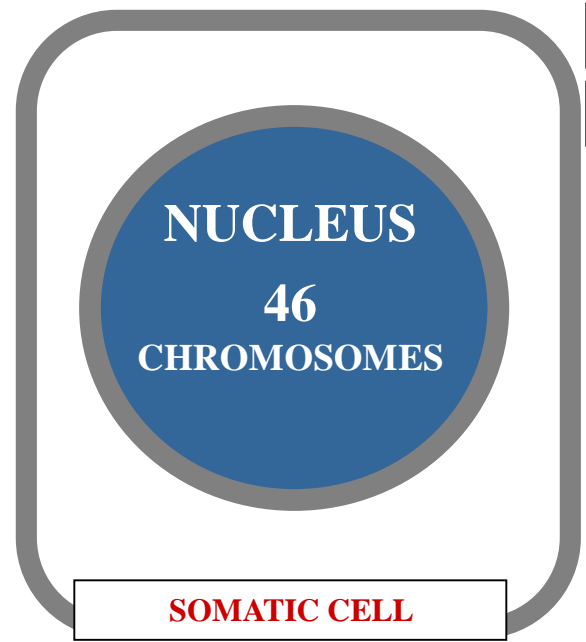
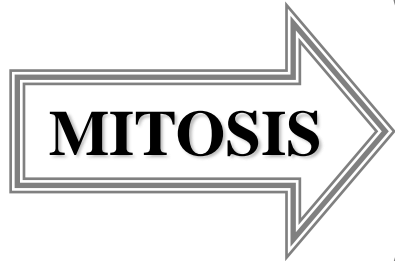
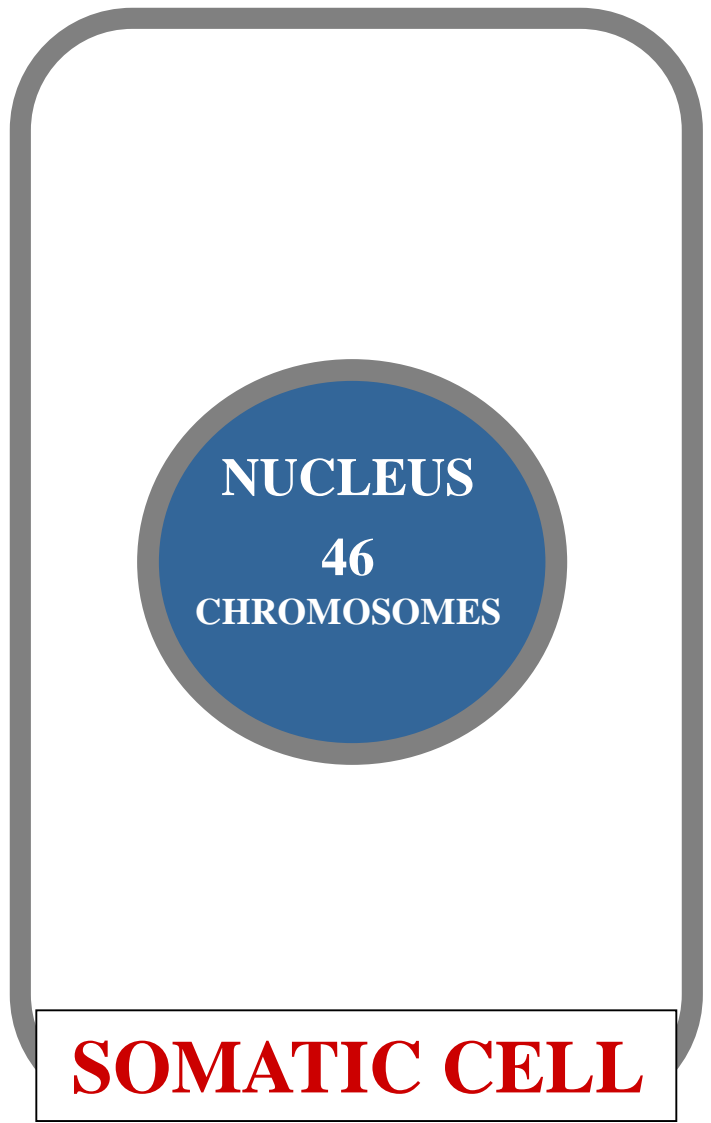
NUCLEUS

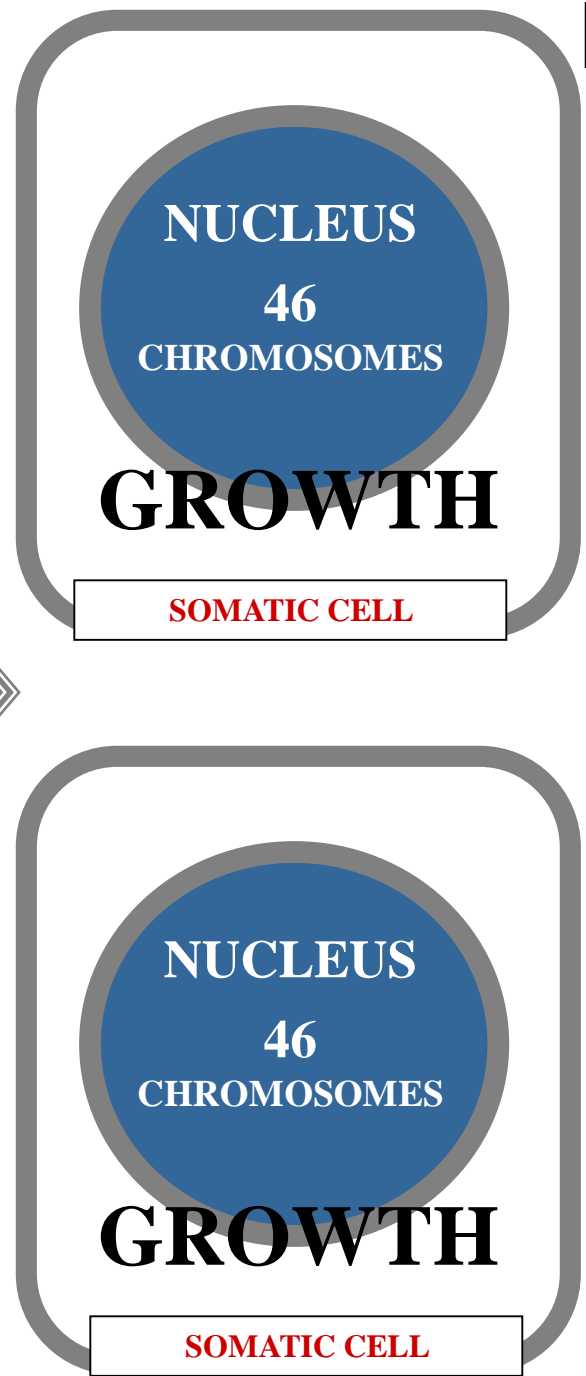
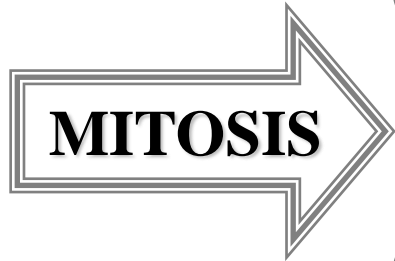
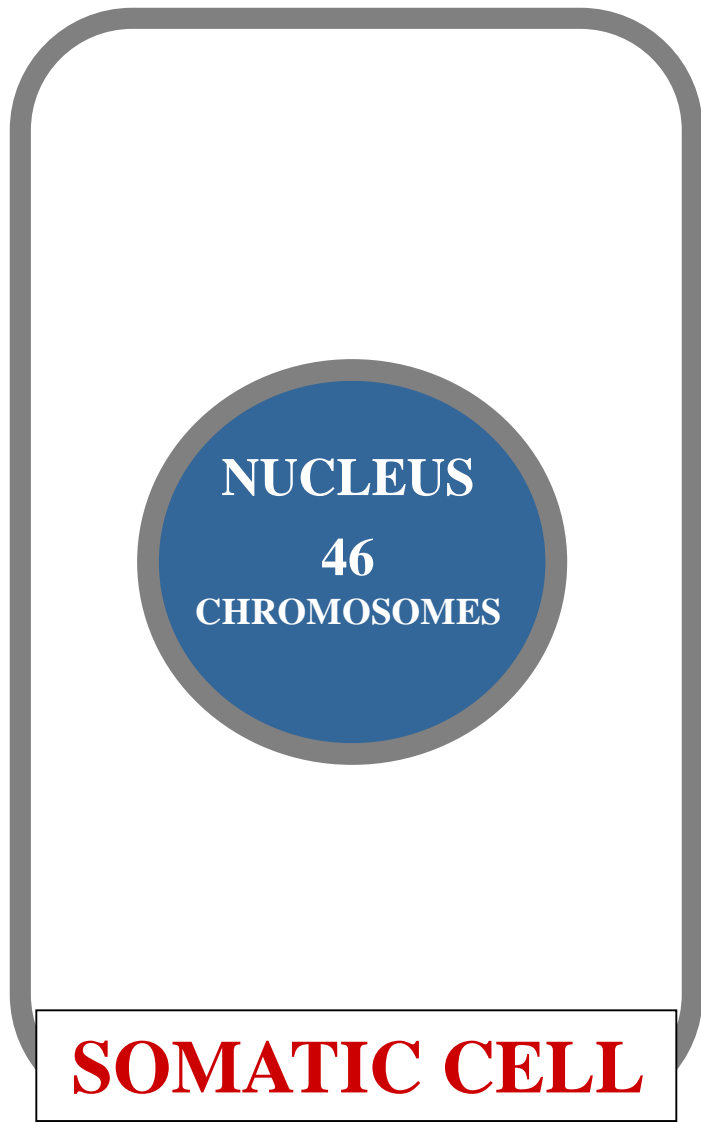
46

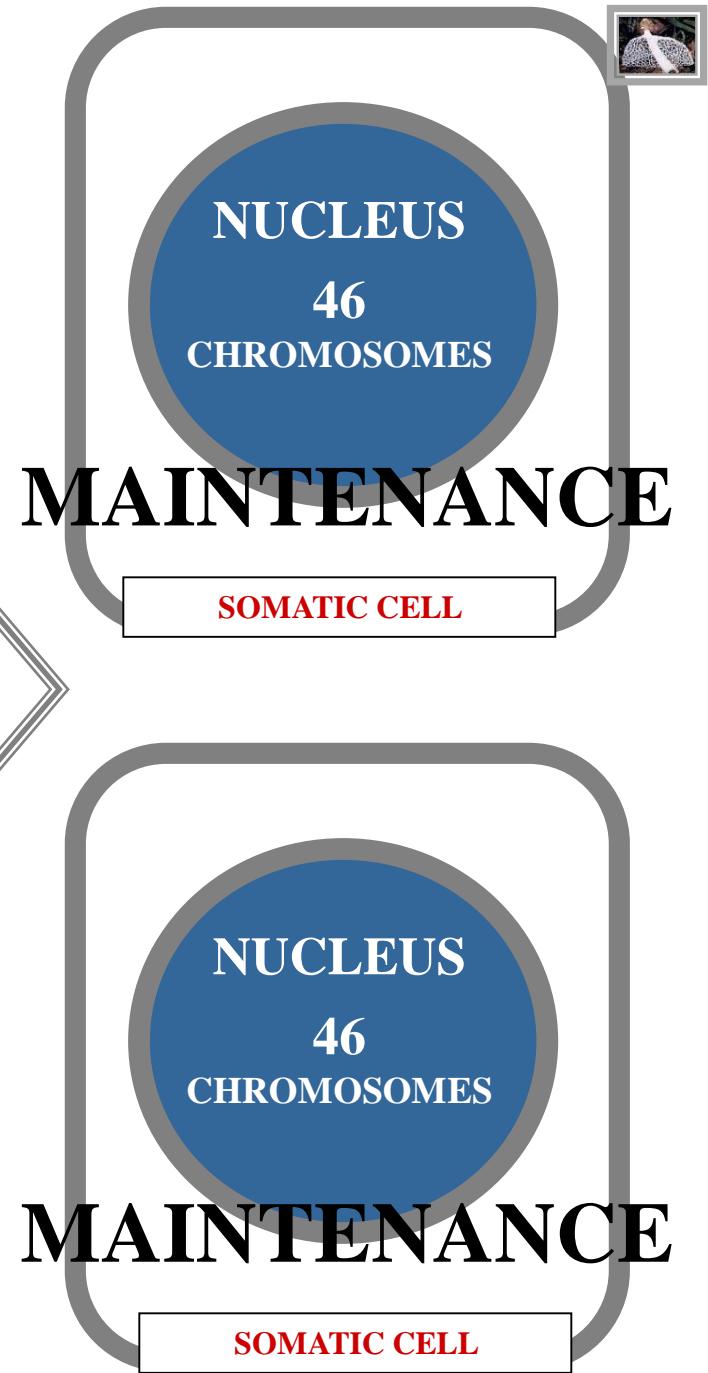
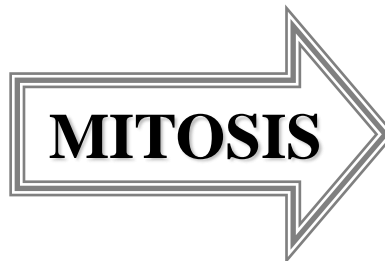
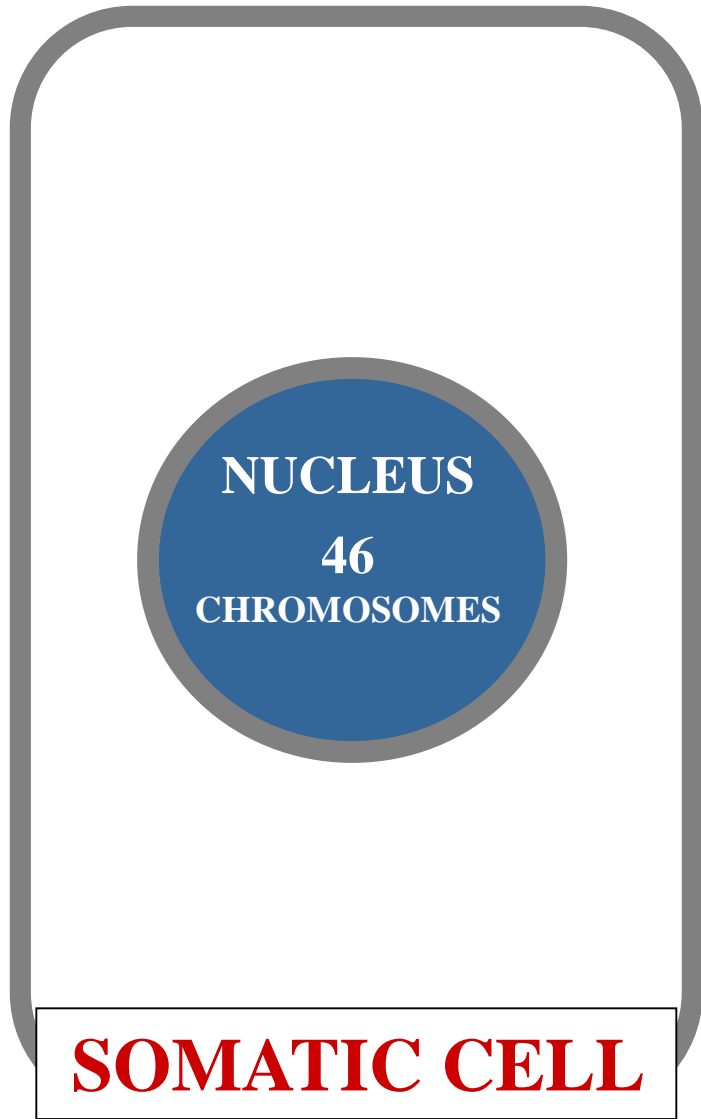
CHROMOSOMES

SOMATIC CELL











FUNGUS DIVERSITY





PLANT DIVERSITY

