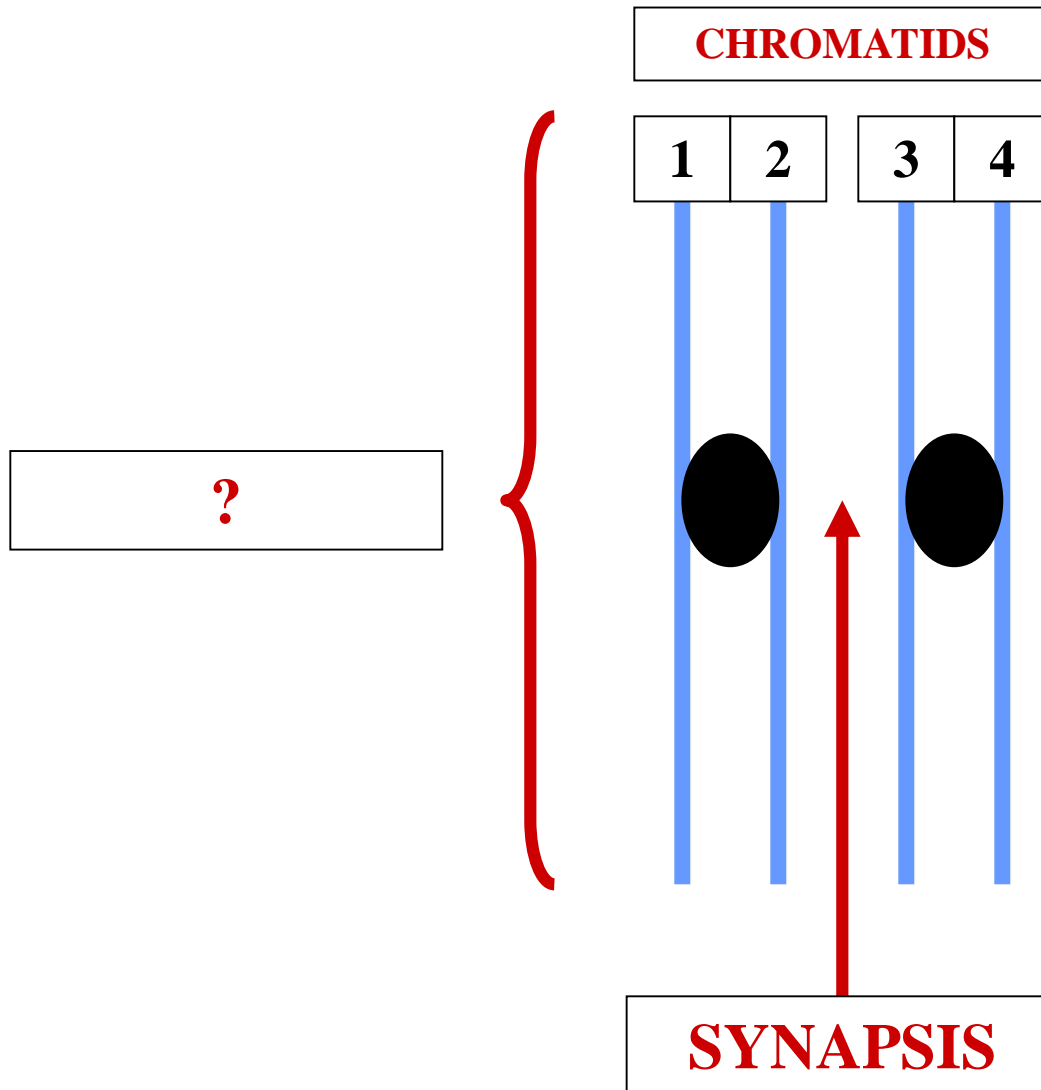
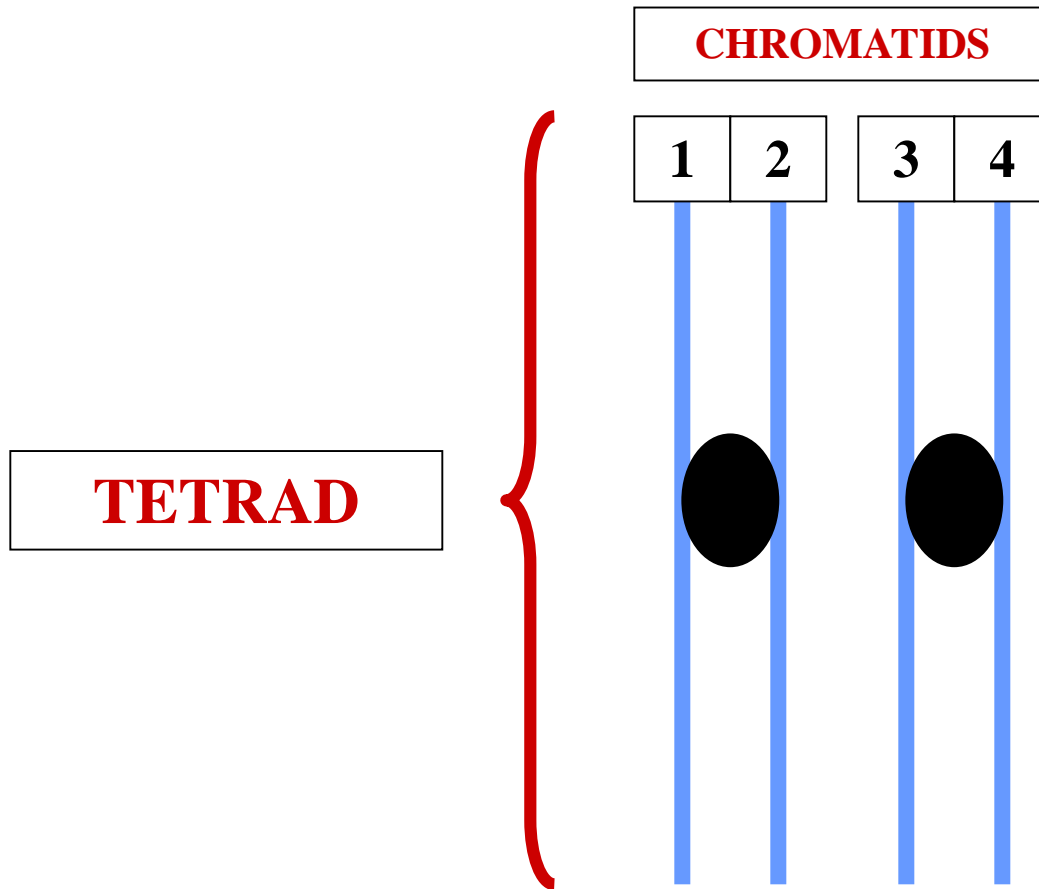


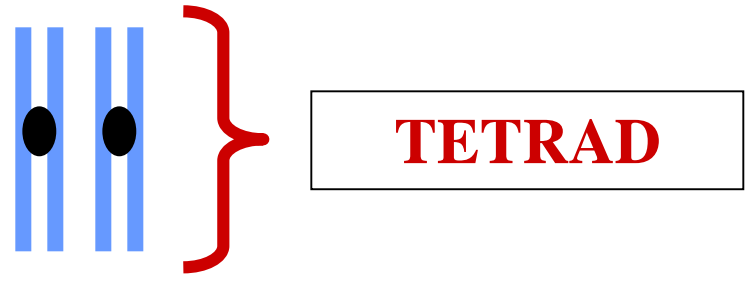
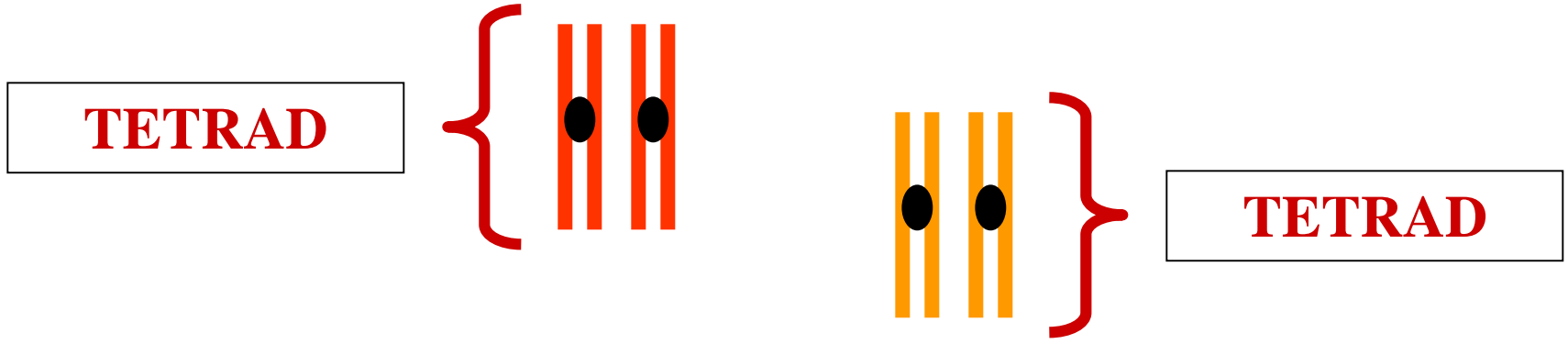
PROPHASE - I



PROPHASE - I

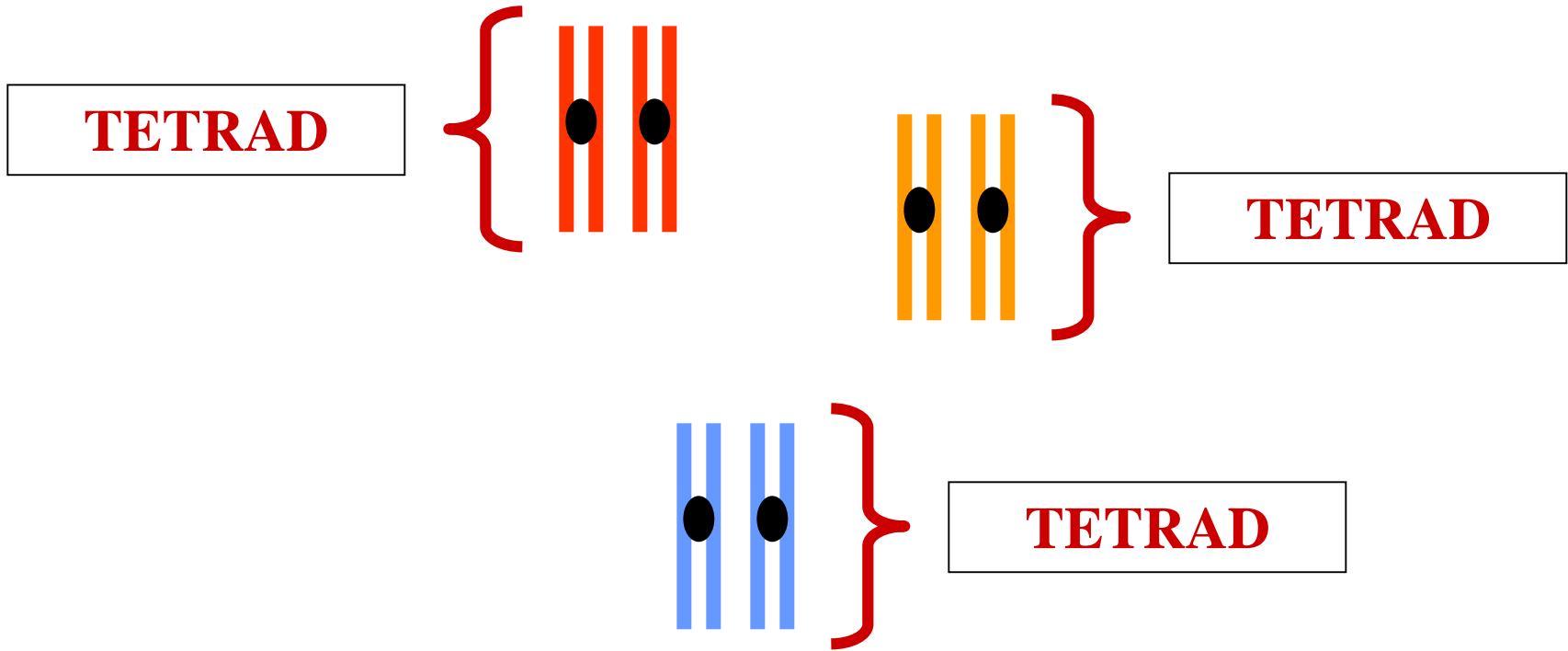


PROPHASE - I



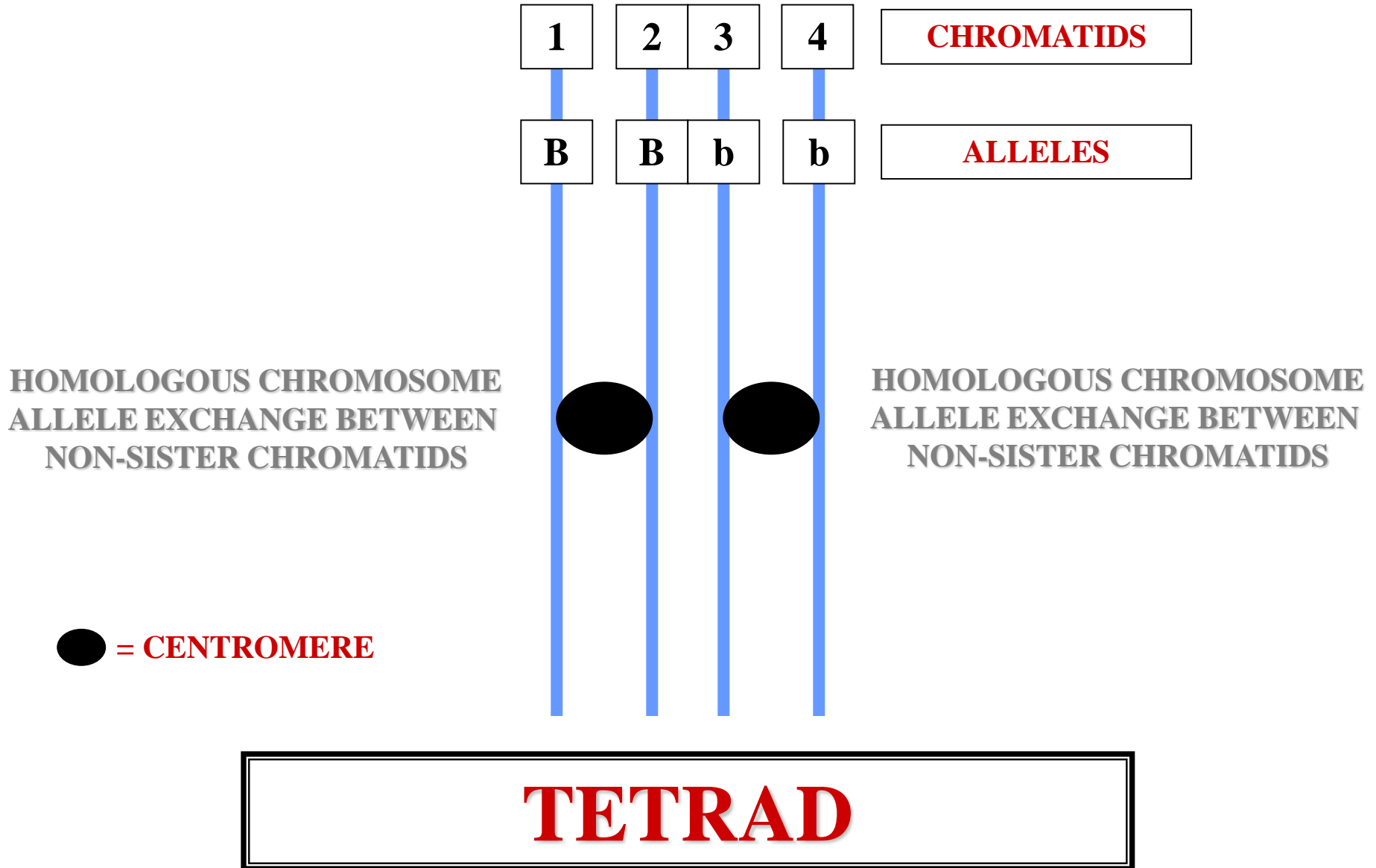
**HOMOLOGOUS
CHROMOSOME
TETRADS**

PROPHASE - I

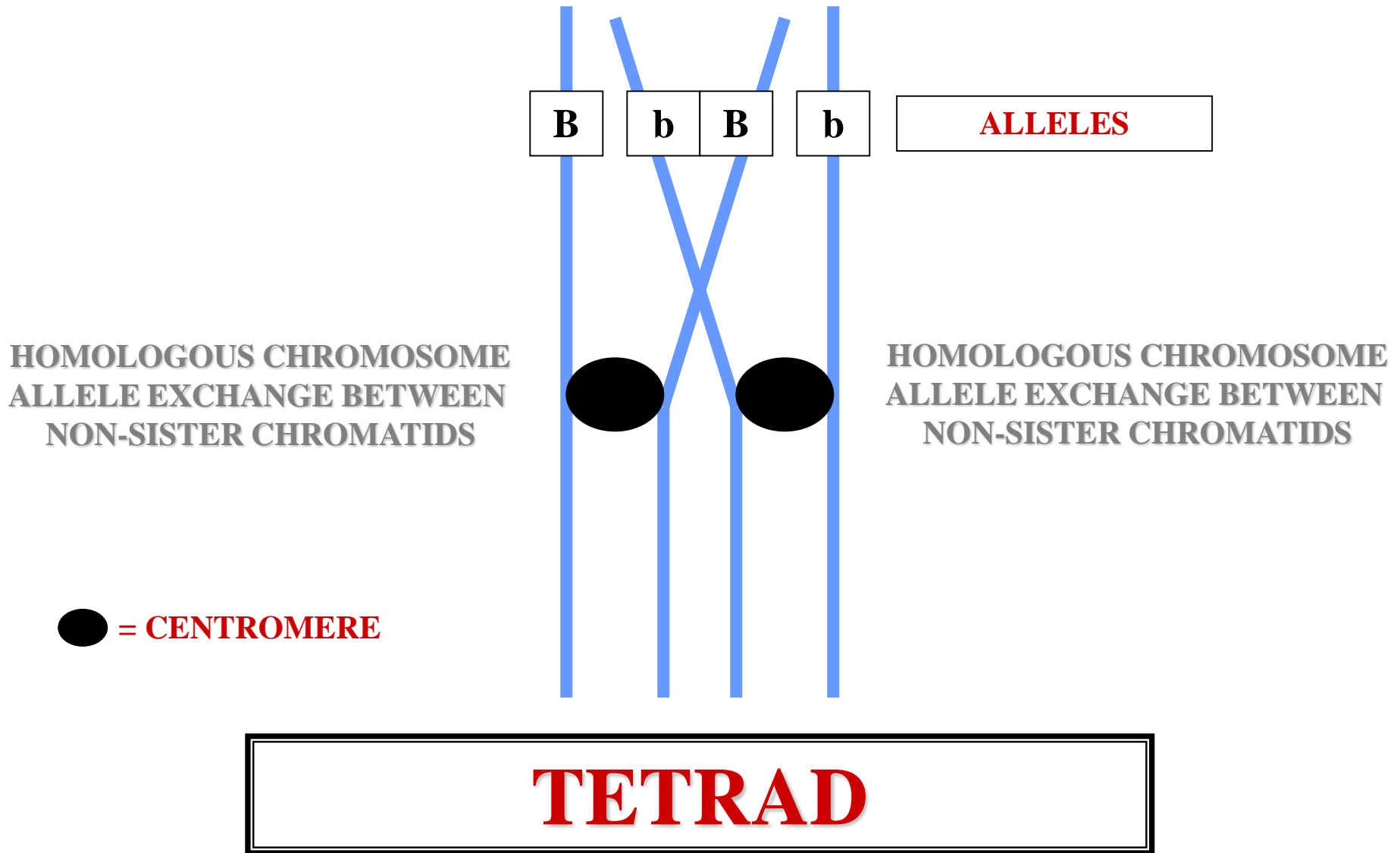


**CROSSING-OVER
OCCURS**

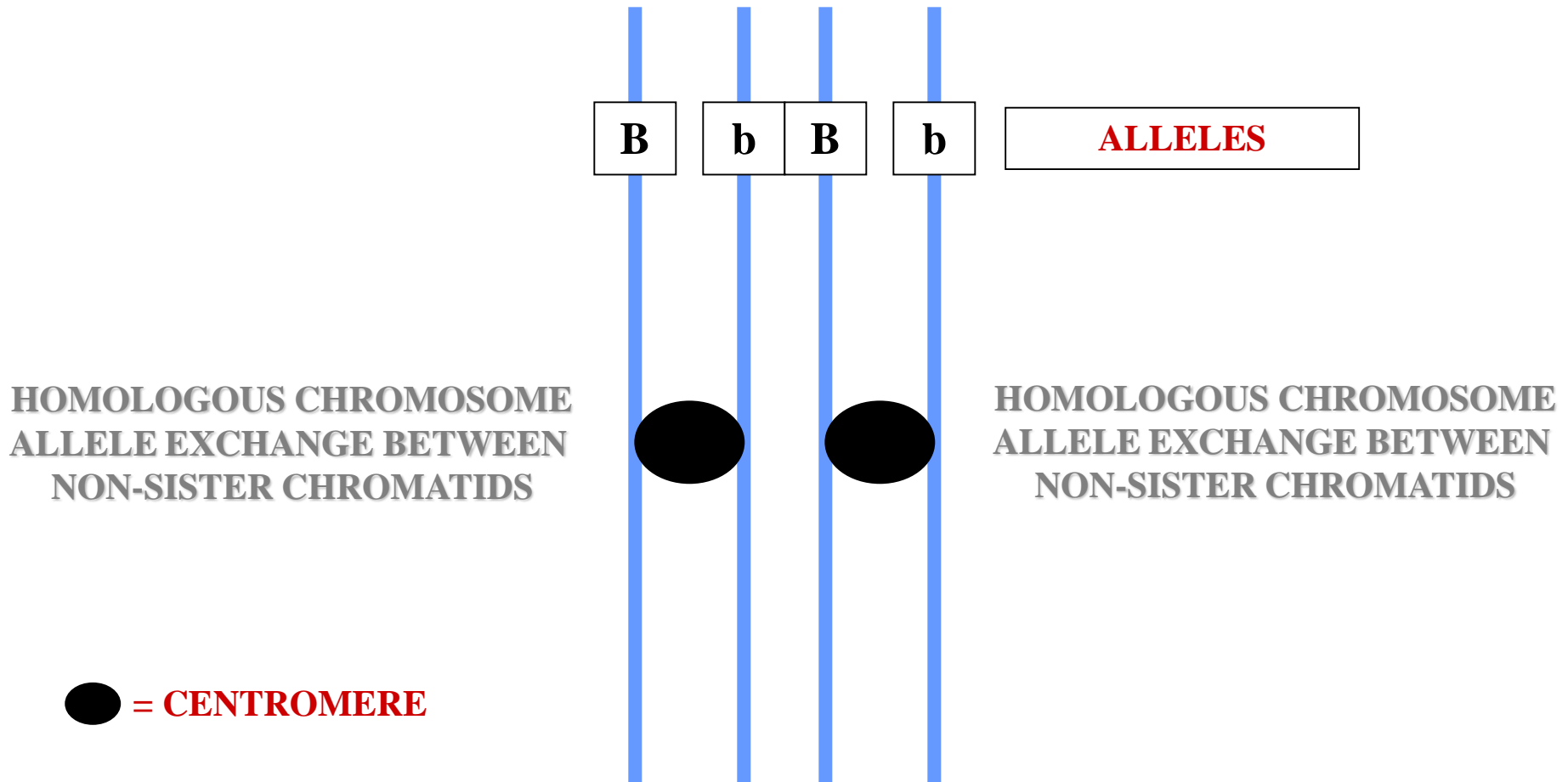
CROSSING-OVER



CROSSING-OVER

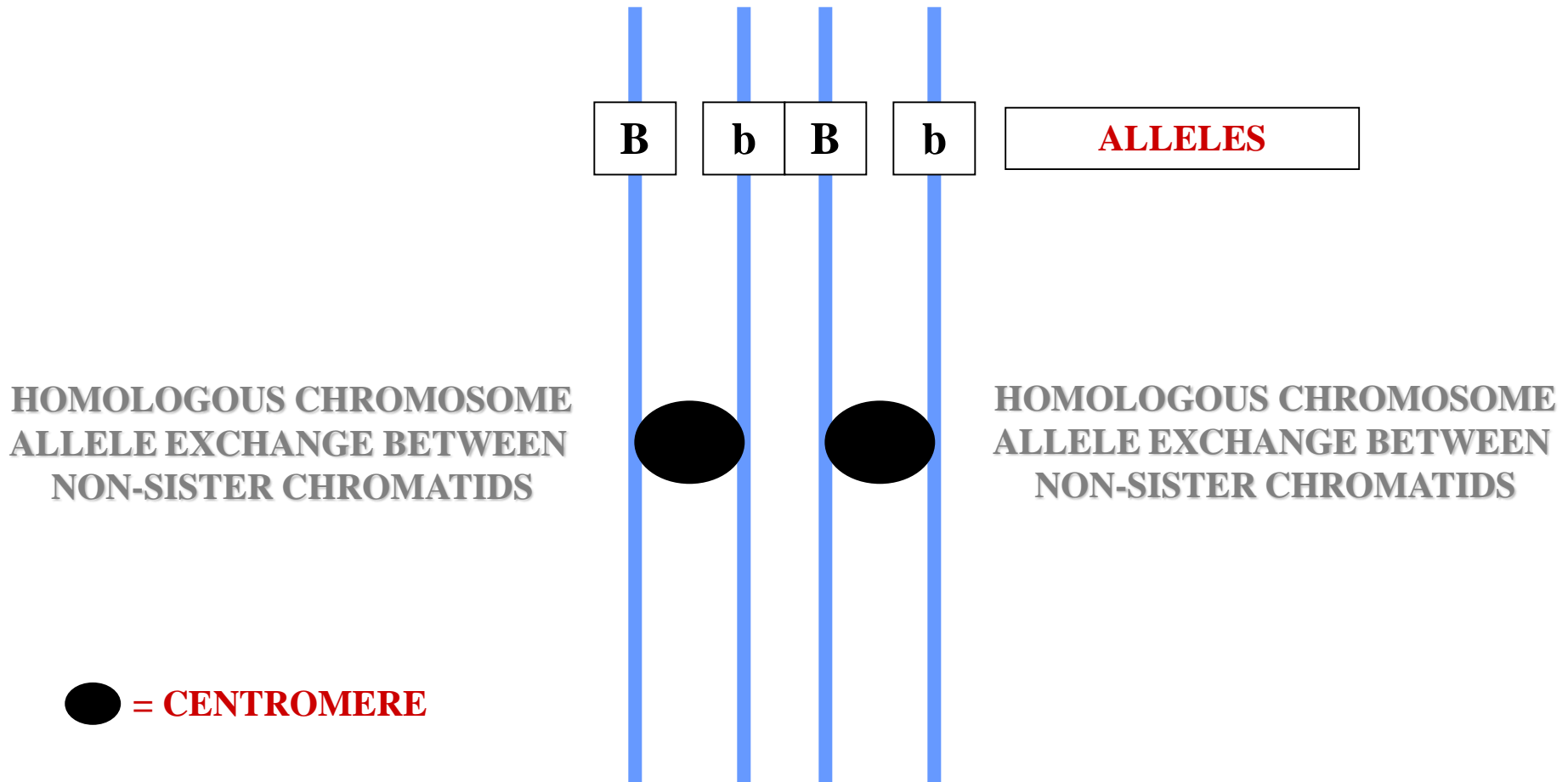


POST CROSSING-OVER



ALLELE EXCHANGE

POST CROSSING-OVER



INCREASES GENETIC DIVERSITY

PROPHASE - I



**HOMOLOGOUS
CHROMOSOMES
TETRADS**

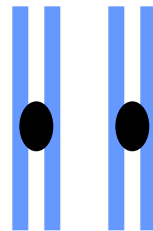
METAPHASE-I

METAPHASE - I



**HOMOLOGOUS
CHROMOSOME
TETRADS**

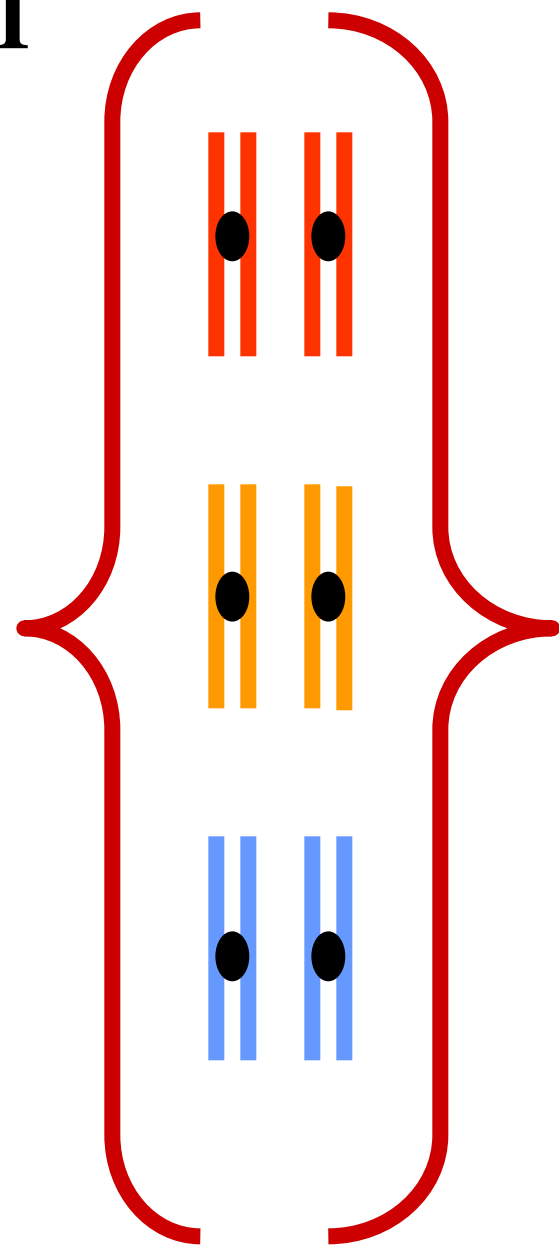
METAPHASE - I



**HOMOLOGOUS
CHROMOSOME
TETRADS**

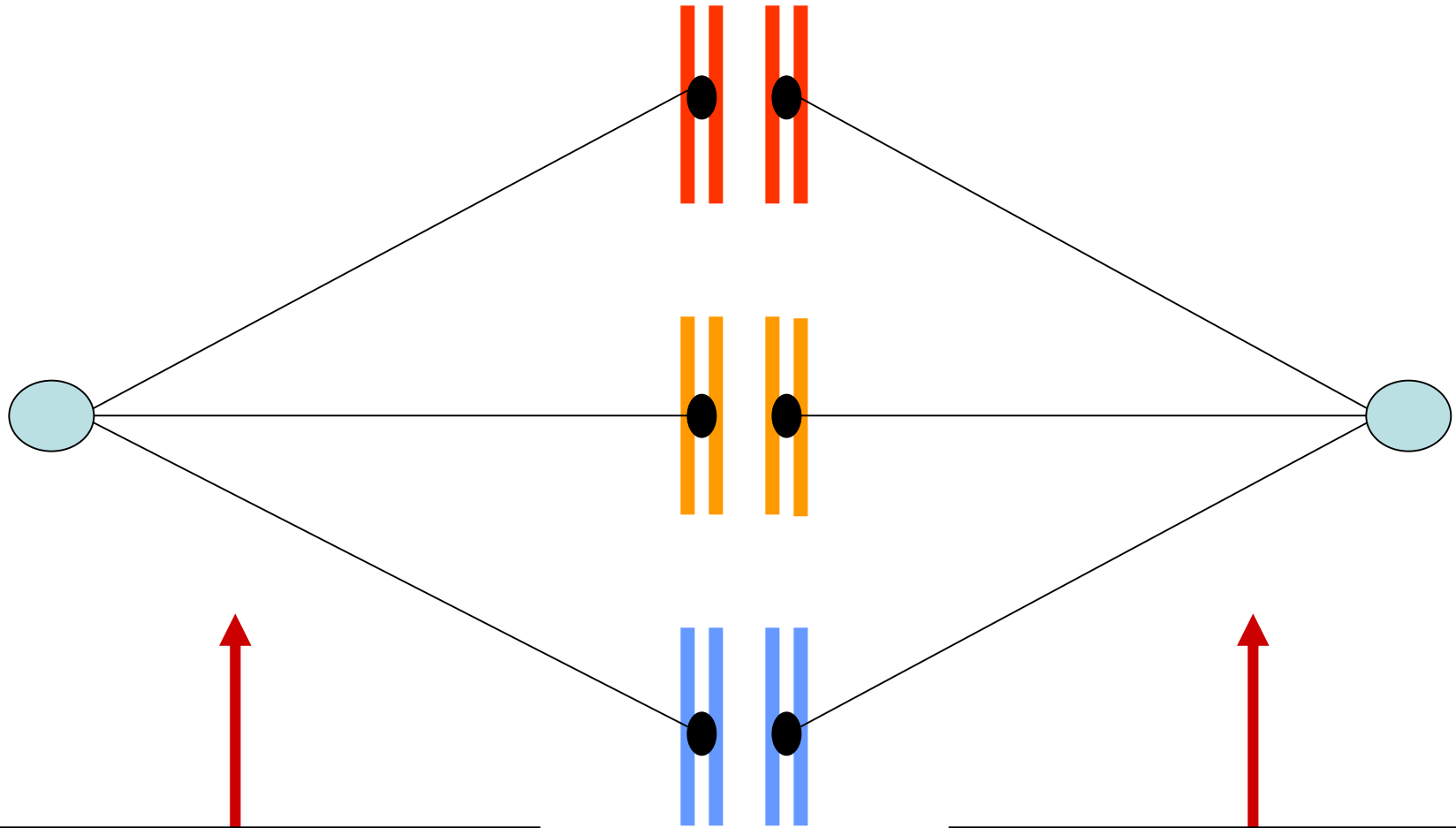
METAPHASE - I

**EQUATORIAL
PLANE**



**EQUATORIAL
PLANE**

METAPHASE - I



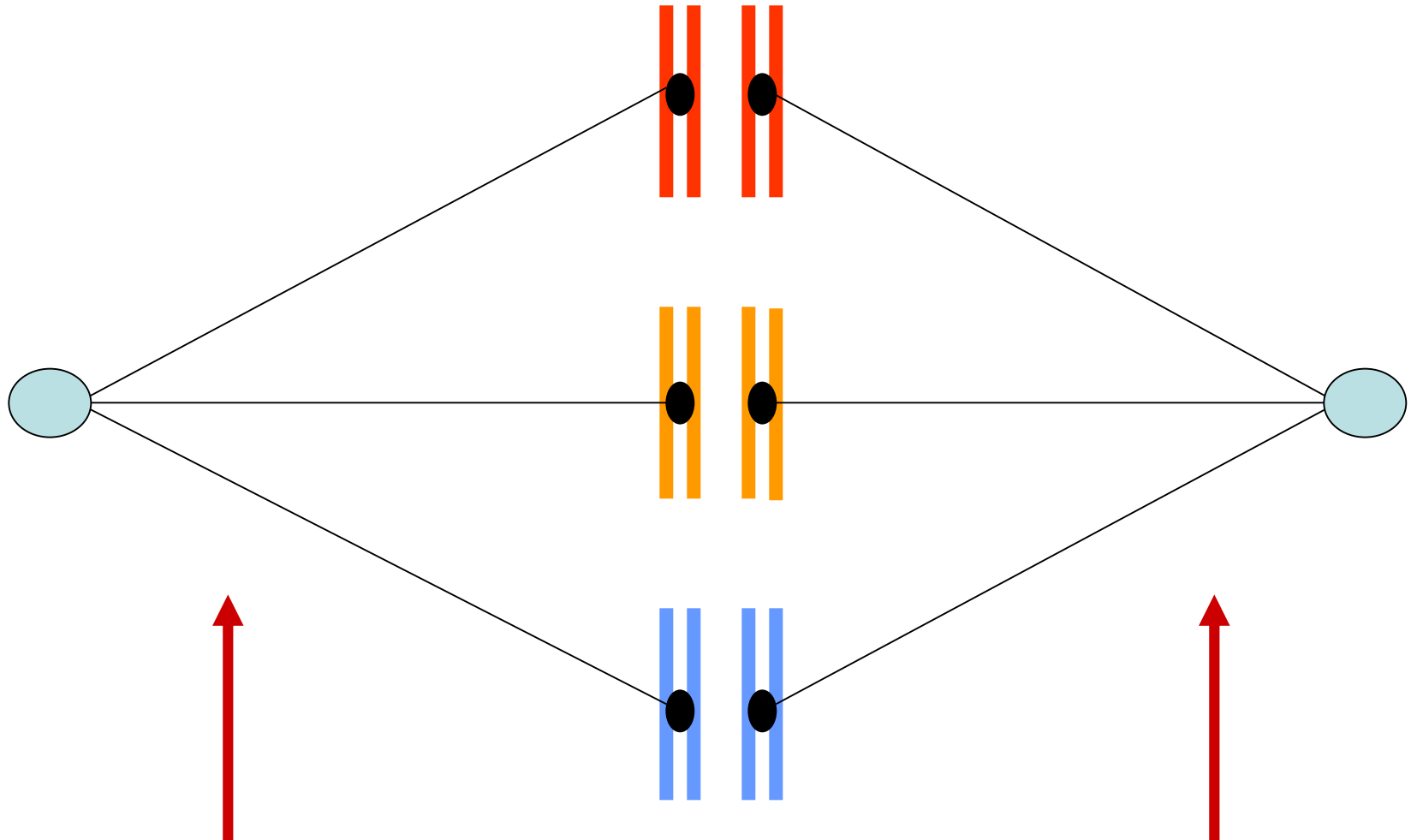
**MICROTUBULES
FORM
SPINDLE COMPLEX**

**MICROTUBULES
FORM
SPINDLE COMPLEX**



ANAPHASE-I

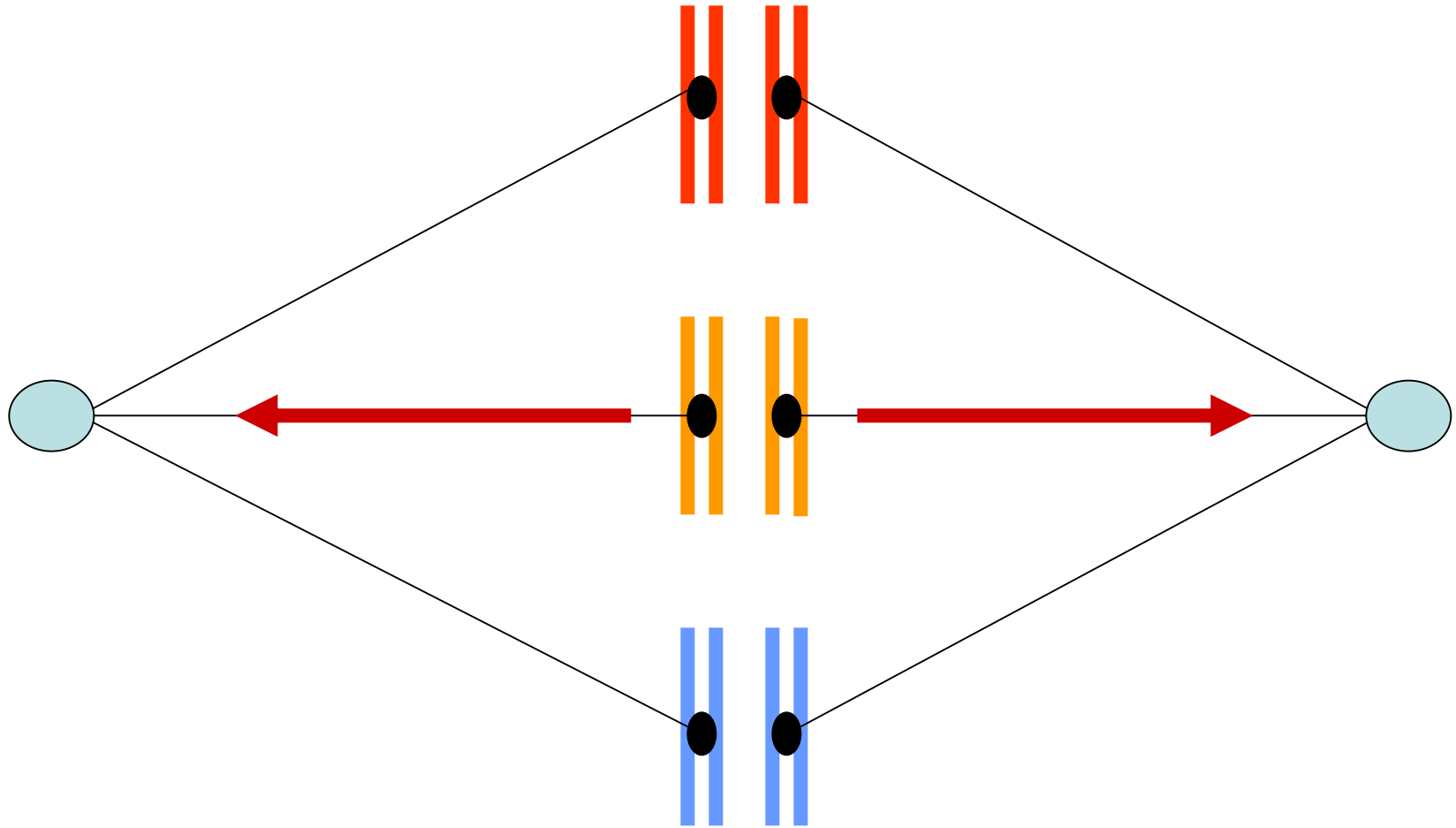
ANAPHASE - I



**MICROTUBULE
SPINDLE COMPLEX**

**MICROTUBULE
SPINDLE COMPLEX**

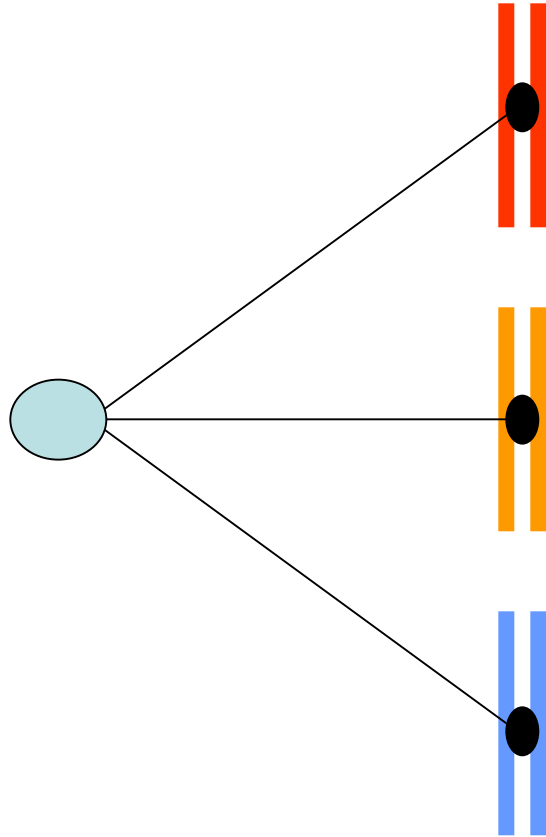
ANAPHASE - I



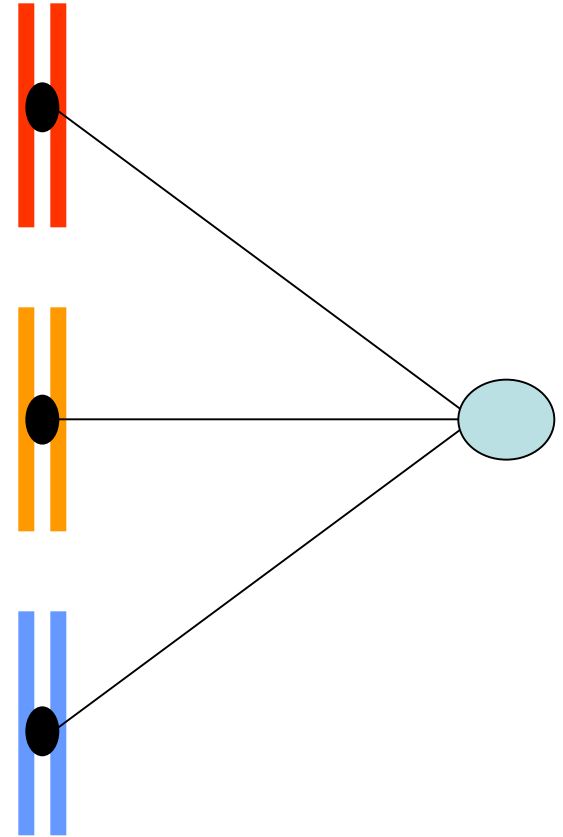
**SPINDLE COMPLEX
CONTRACTS**

**SPINDLE COMPLEX
CONTRACTS**

ANAPHASE - I

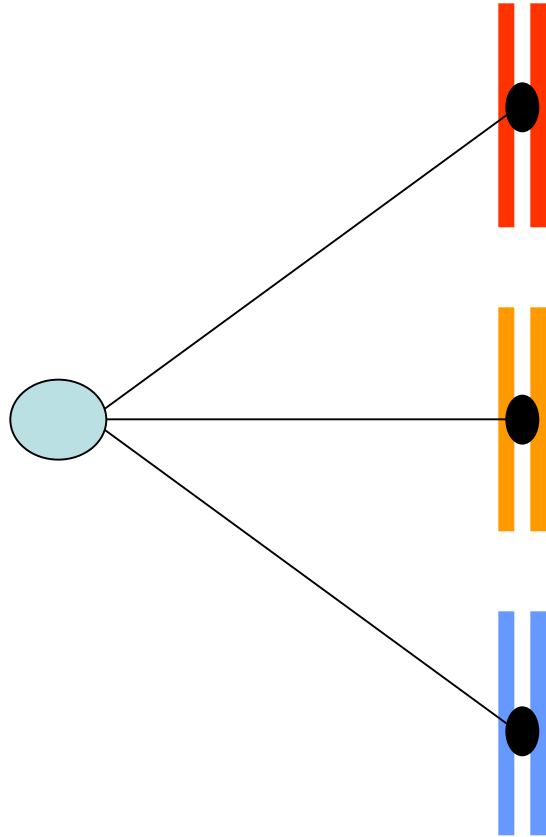


?
BREAKDOWN

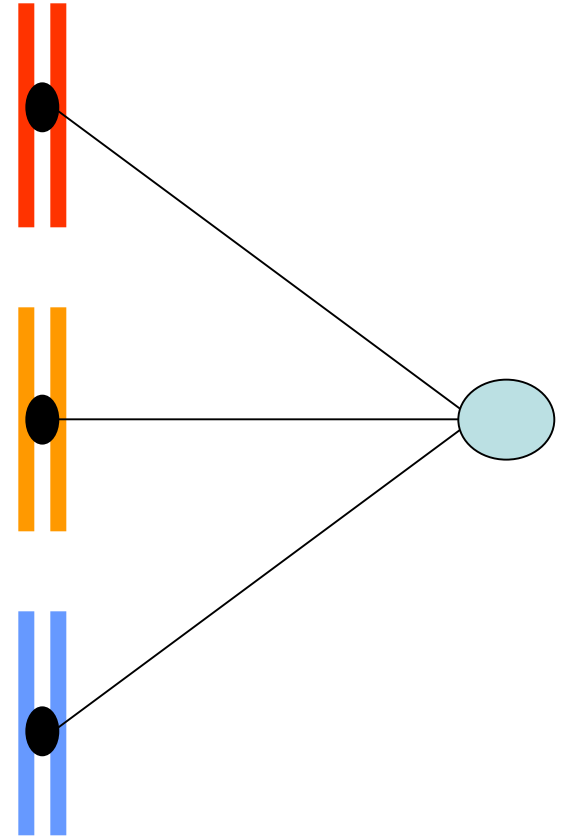


?
BREAKDOWN

ANAPHASE - I

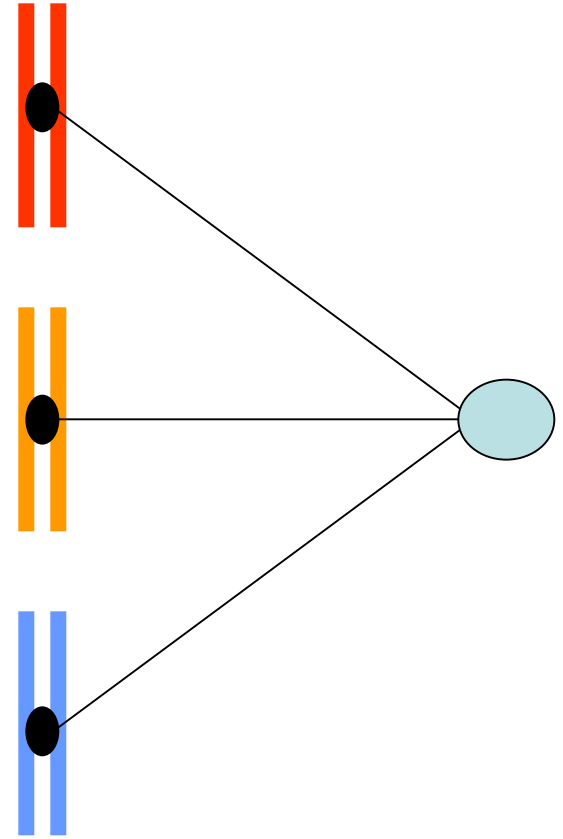
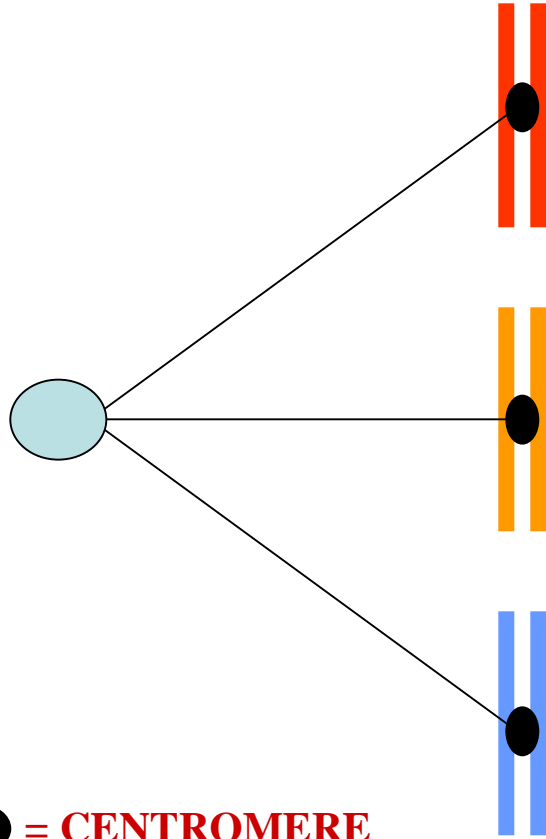


**TETRAD SYNAPSES
BREAKDOWN**



**TETRAD SYNAPSES
BREAKDOWN**

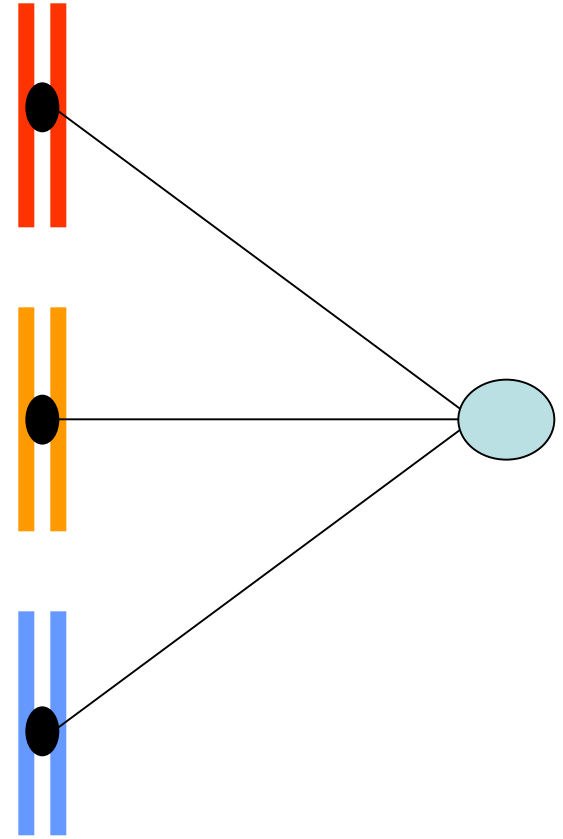
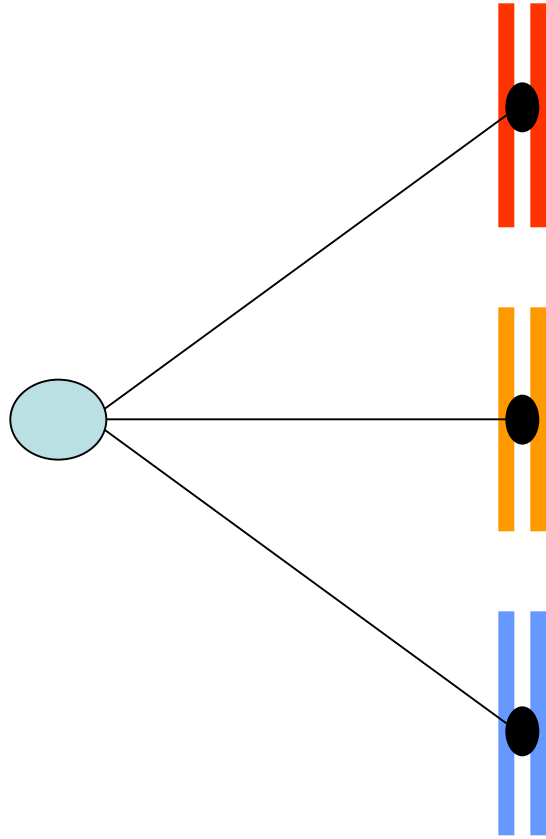
ANAPHASE - I



**CENTROMERES
REMAIN INTACT**

**CENTROMERES
REMAIN INTACT**

ANAPHASE - I



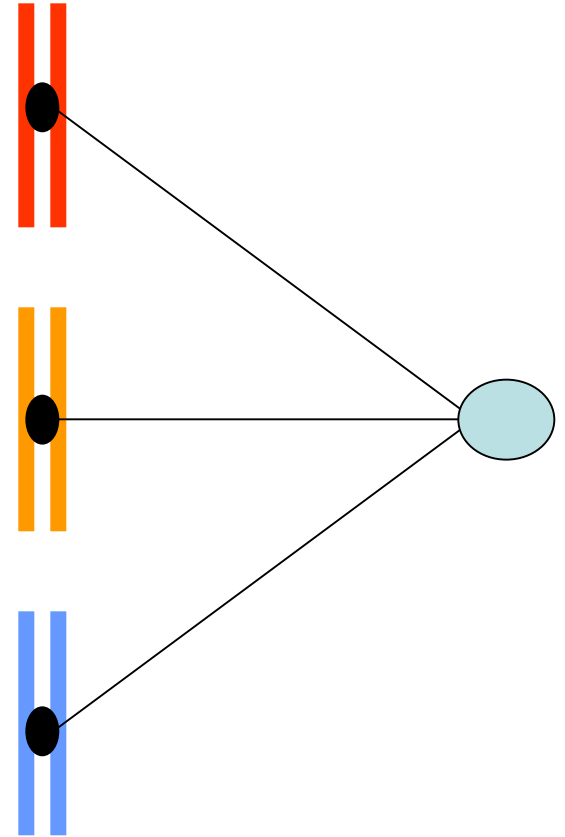
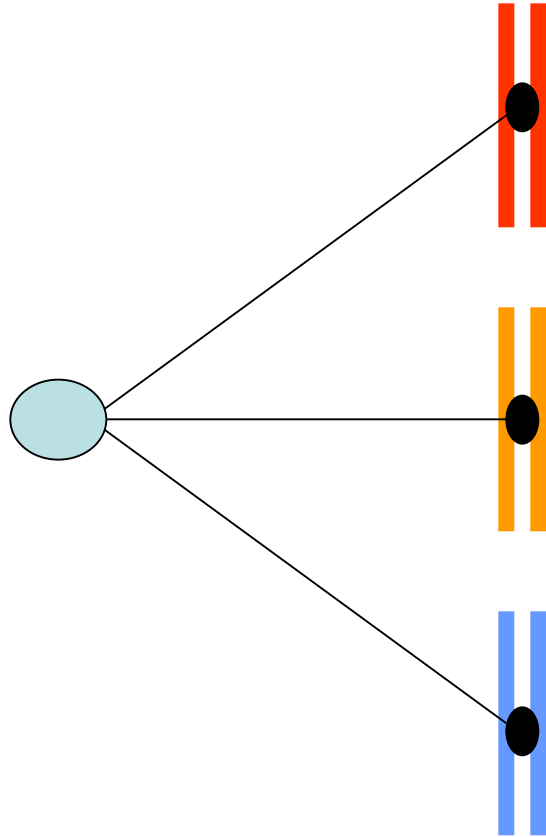
**CHROMOSOMES
OPPOSITE POLES**

**CHROMOSOMES
OPPOSITE POLES**



TELOPHASE-I

TELOPHASE - I



**CHROMOSOMES
OPPOSITE POLES**

**CHROMOSOMES
OPPOSITE POLES**

TELOPHASE - I



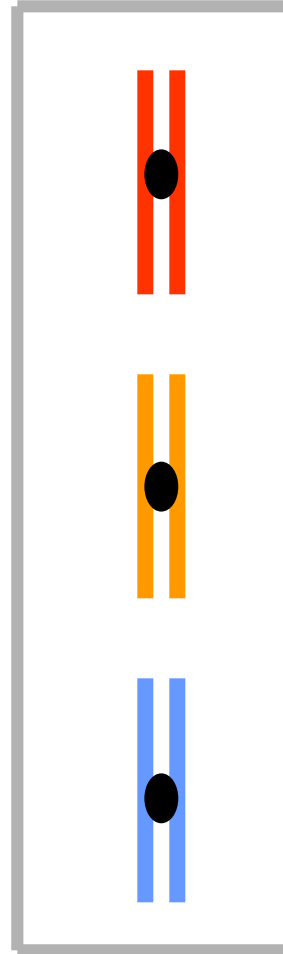
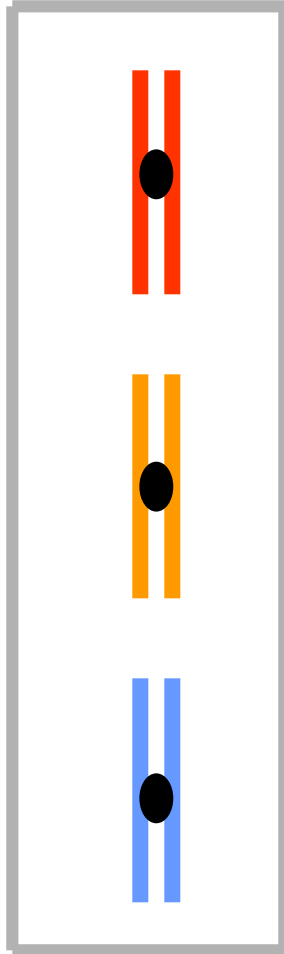
**SPINDLE COMPLEX
DISSIPATES**

**SPINDLE COMPLEX
DISSIPATES**

TELOPHASE - I

2

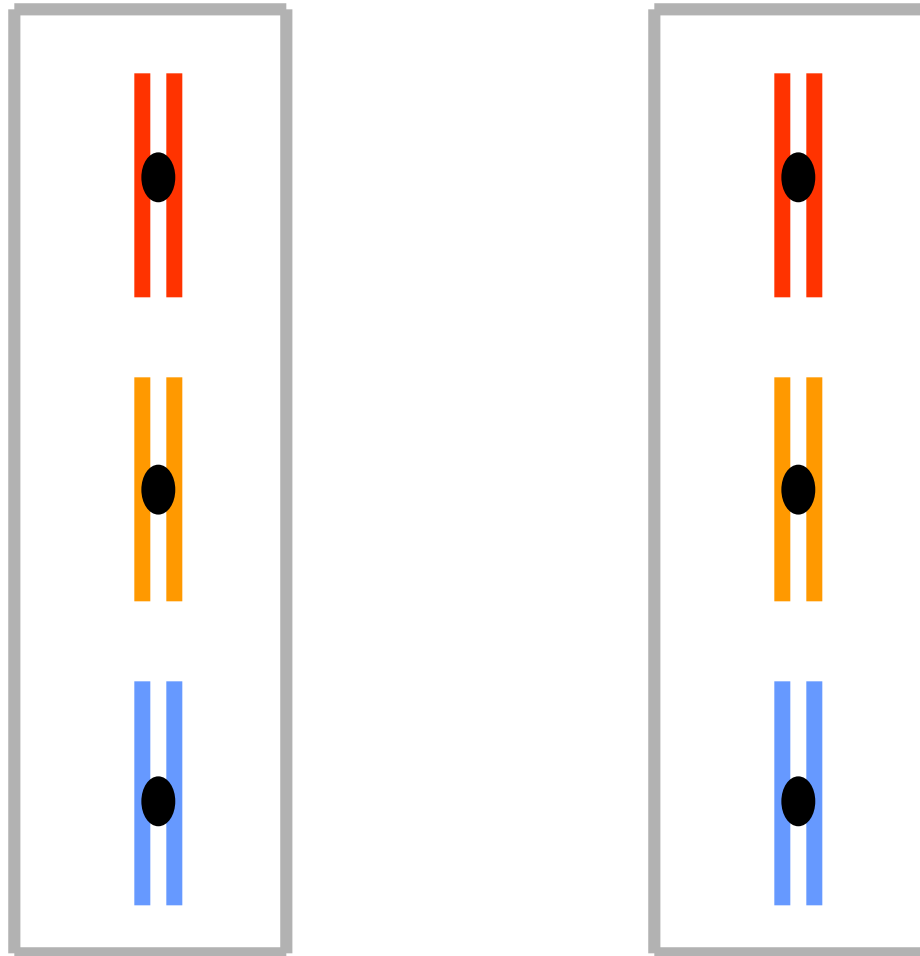
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**NUCLEAR MEMBRANE
FORMS**

**NUCLEAR MEMBRANE
FORMS**

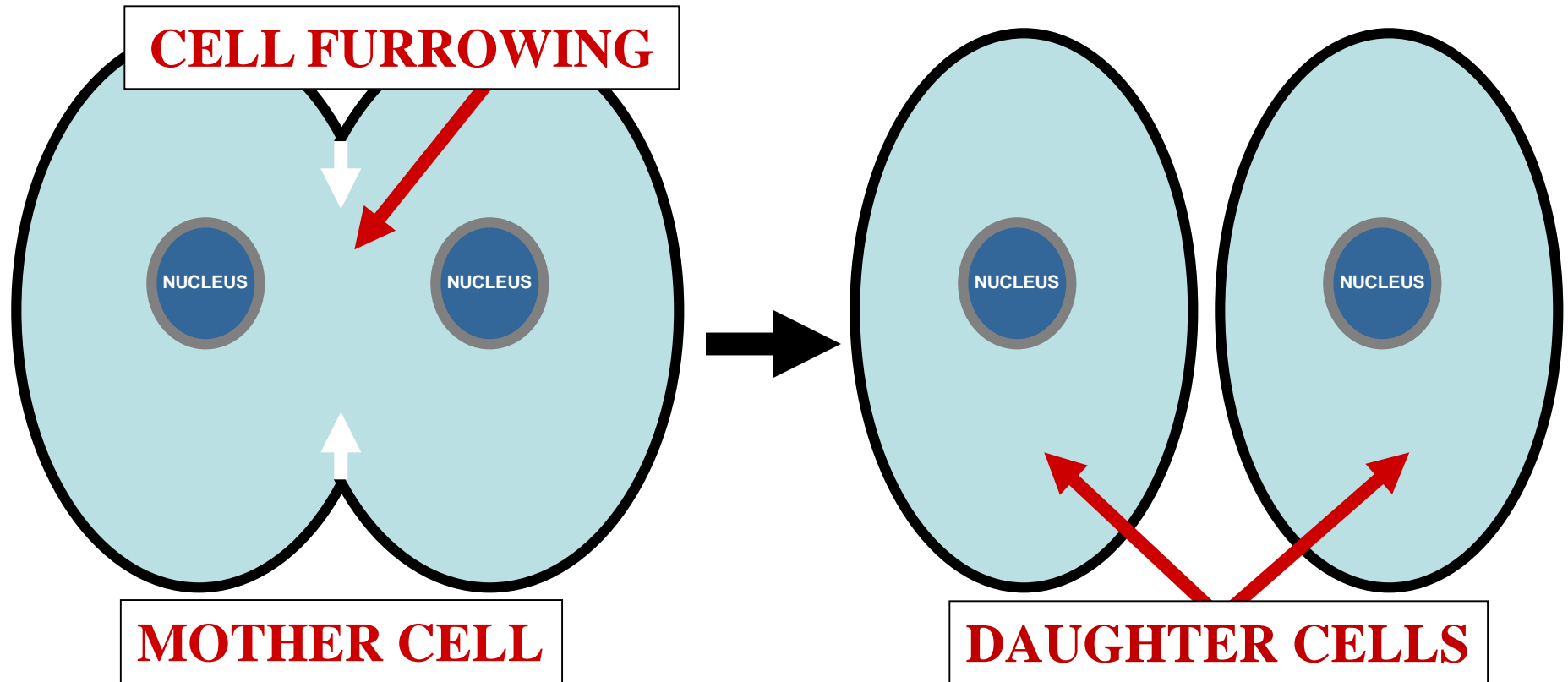
TELOPHASE - I



**TWO DAUGHTER
NUCLEI**

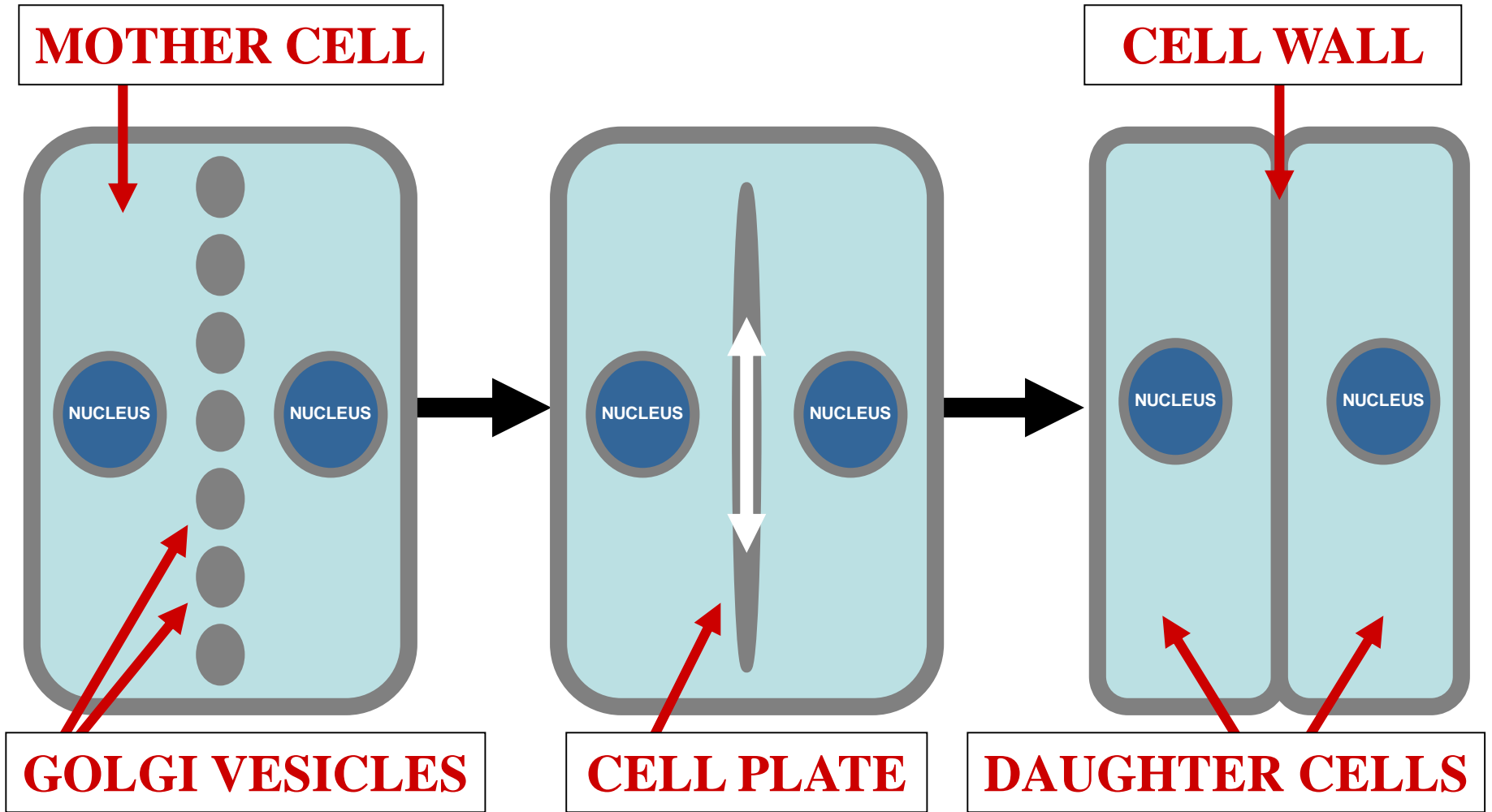
CYTOKINESIS-I

CYTOKINESIS FURROWING

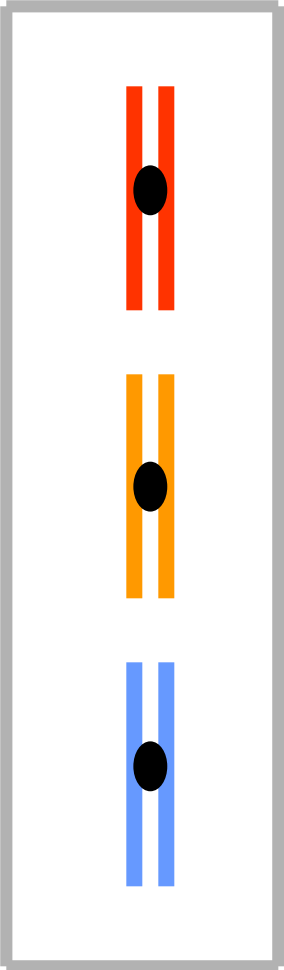


CYTOKINESIS FURROWING

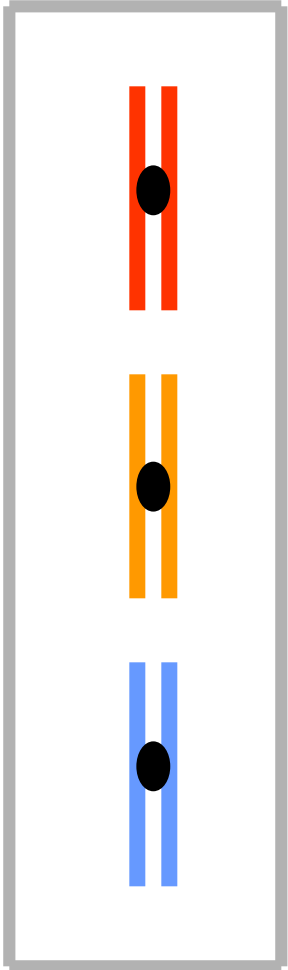
CYTOKINESIS CELL PLATE



CYTOKINESIS - I



CELL



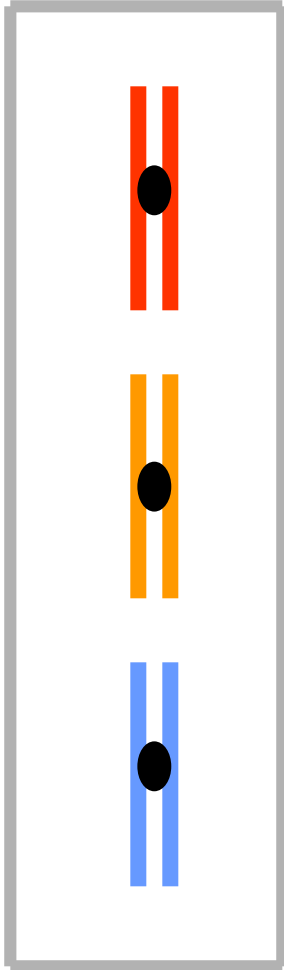
CELL

?

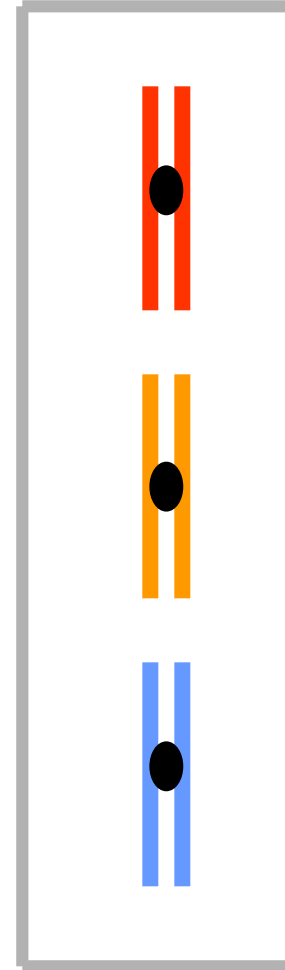
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CYTOKINESIS - I

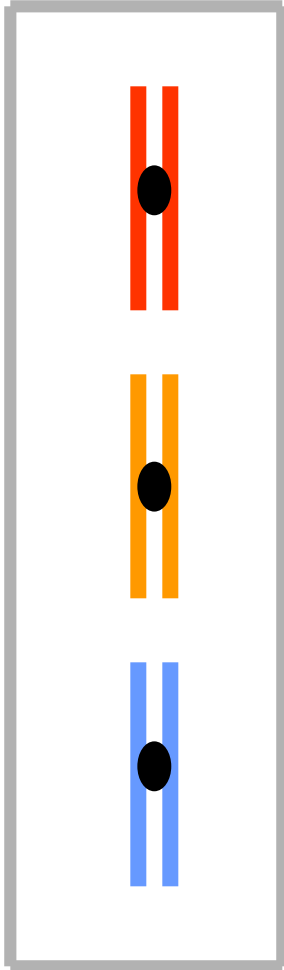


**HOW MANY
CHROMOSOMES?**

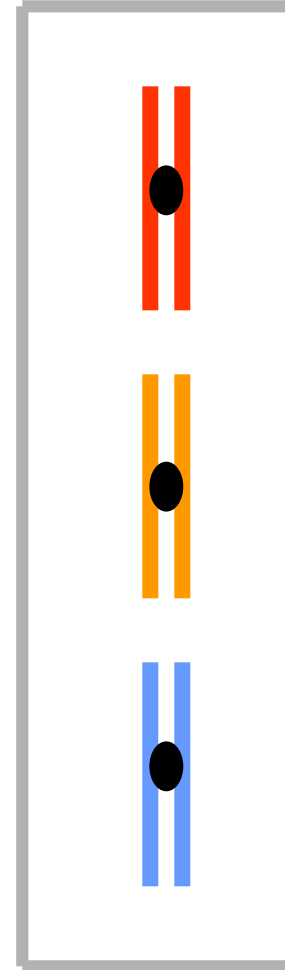


**HOW MANY
CHROMOSOMES?**

CYTOKINESIS - I



3 CHROMOSOMES

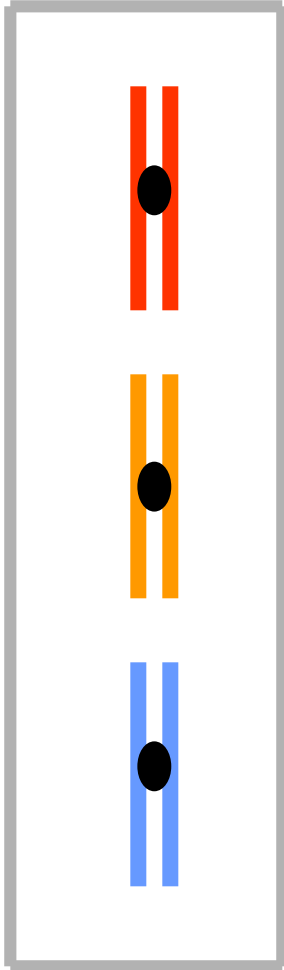


3 CHROMOSOMES

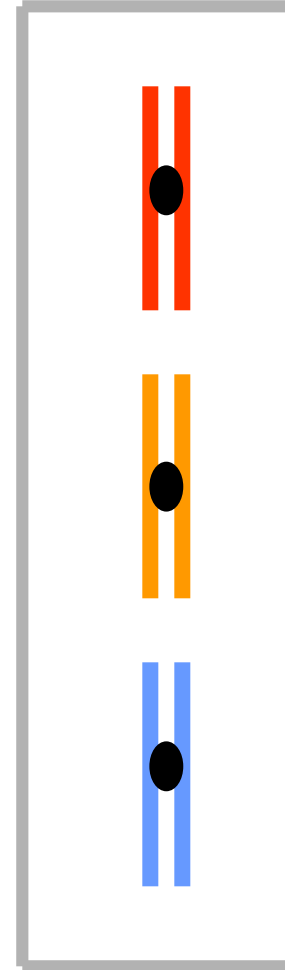
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CYTOKINESIS - I

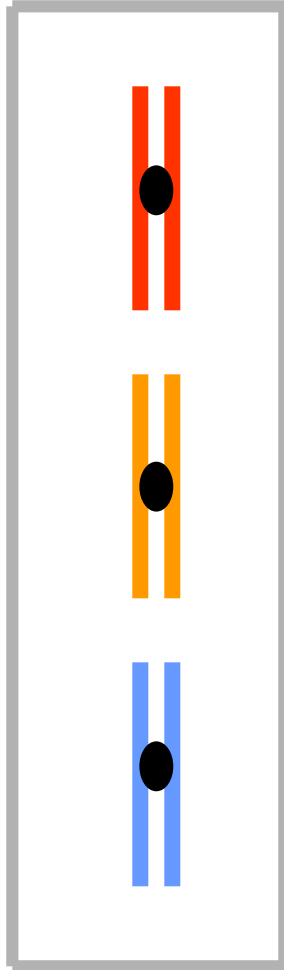


**HAPLOID OR DIPLOID
CELL?**

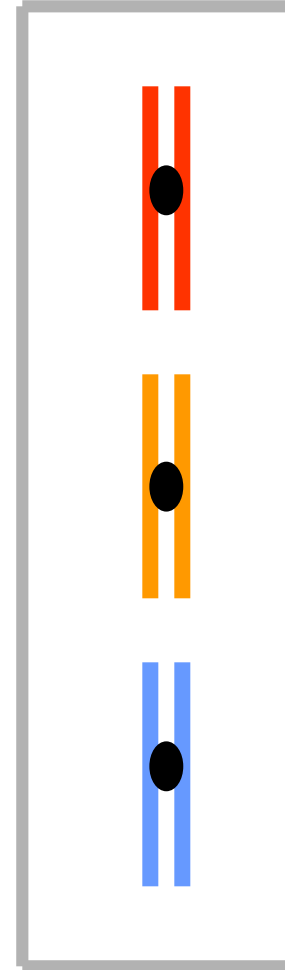


**HAPLOID OR DIPLOID
CELL?**

CYTOKINESIS - I

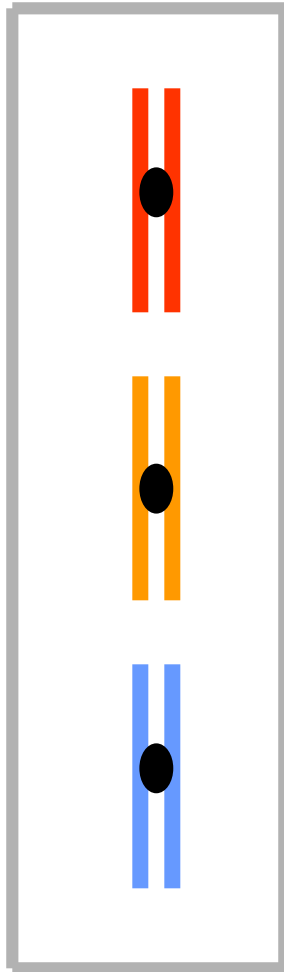


HAPLOID CELL

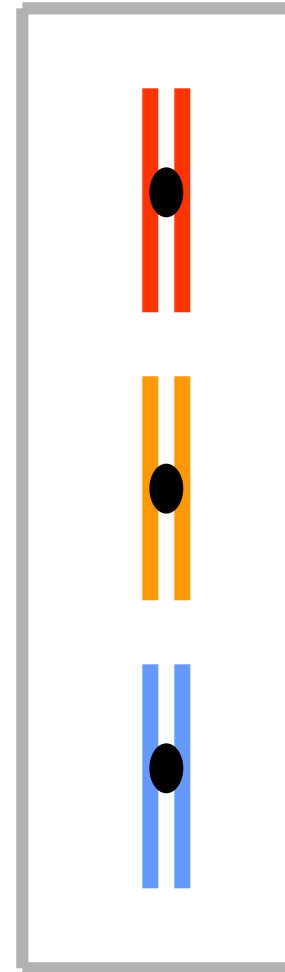


HAPLOID CELL

CYTOKINESIS - I



**ENTER INTERPHASE-II
CONCURRENTLY**

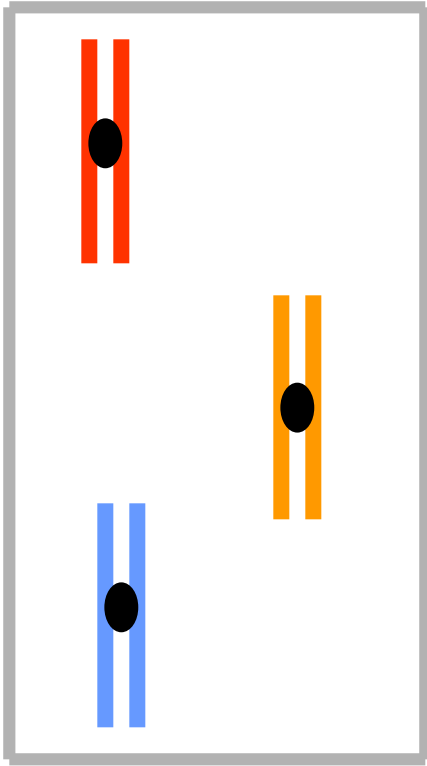


**ENTER INTERPHASE-II
CONCURRENTLY**

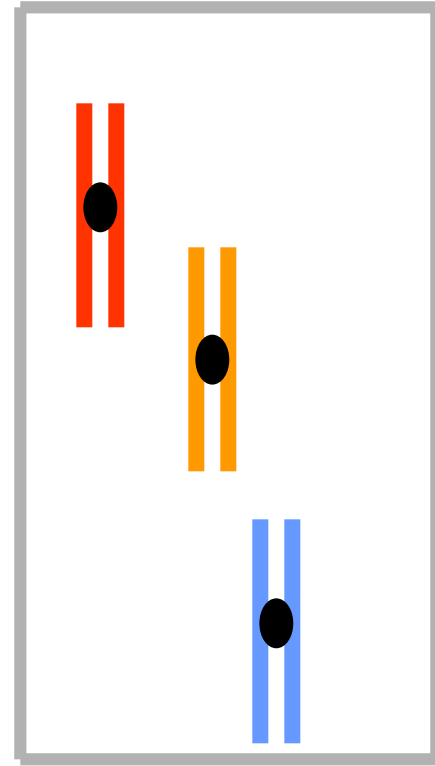


INTERPHASE-II

INTERPHASE - II

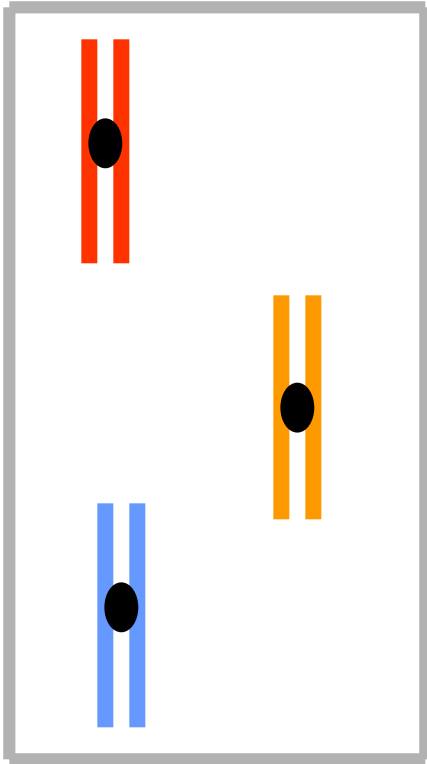


HAPLOID CELL

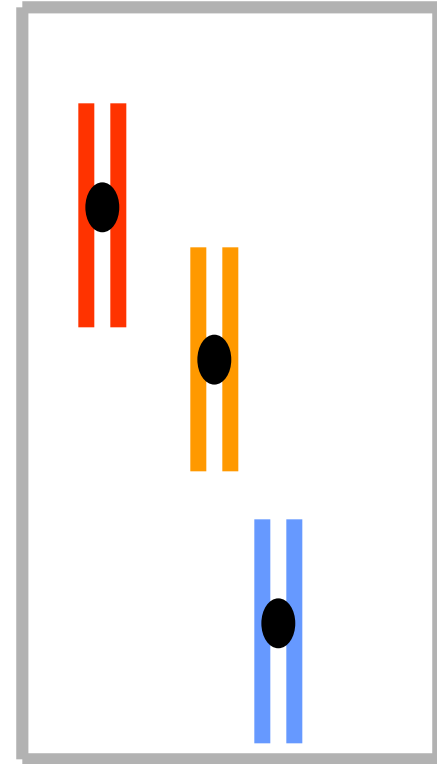


HAPLOID CELL

INTERPHASE - II



**NO CHROMOSOME
REPLICATION**



**NO CHROMOSOME
REPLICATION**

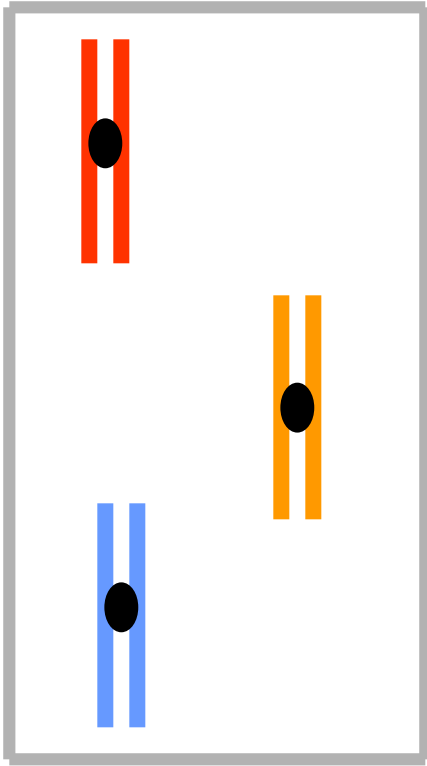
KARYOKINESIS-II

MEIOSIS-II

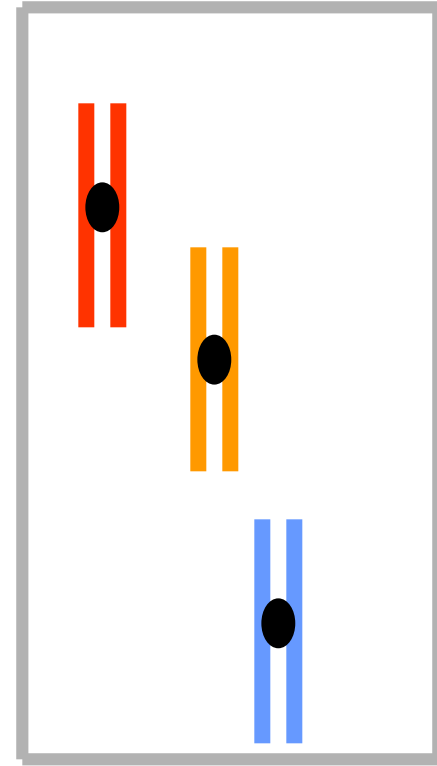


PROPHASE-II

PROPHASE - II

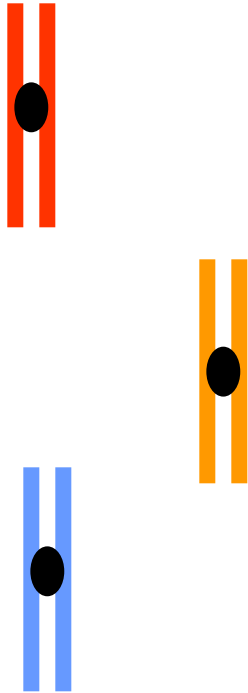


HAPLOID CELL

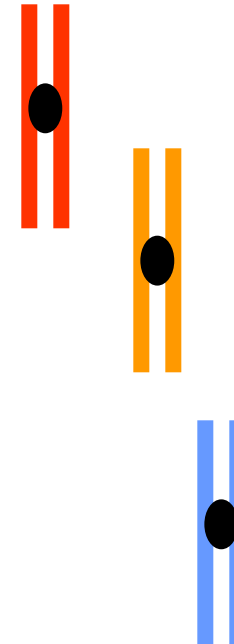


HAPLOID CELL

PROPHASE - II

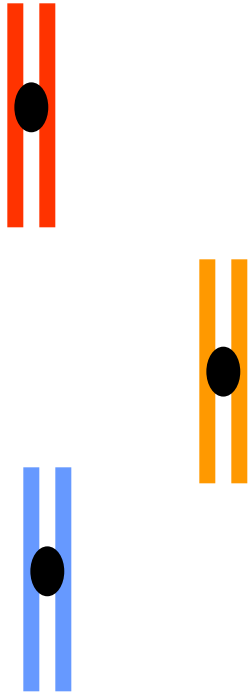


**NUCLEAR MEMBRANE
DISSIPATES**

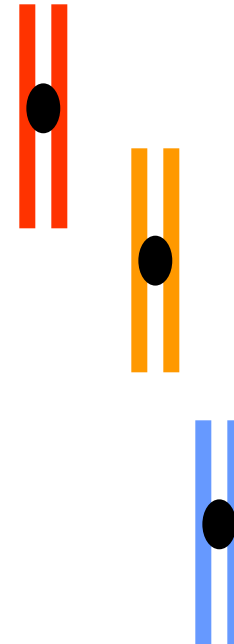


**NUCLEAR MEMBRANE
DISSIPATES**

PROPHASE - II

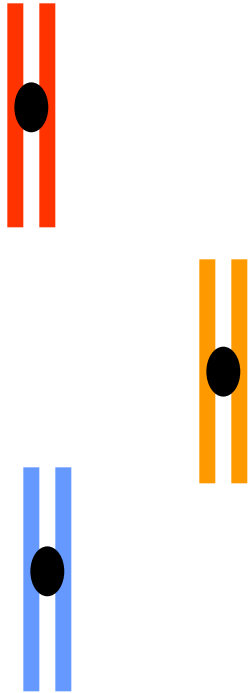


TETRADS ABSENT

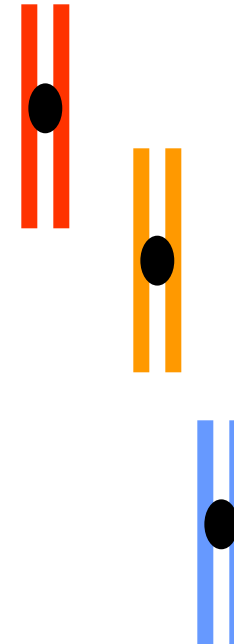


TETRADS ABSENT

PROPHASE - II



**CROSSING-OVER
ABSENT**

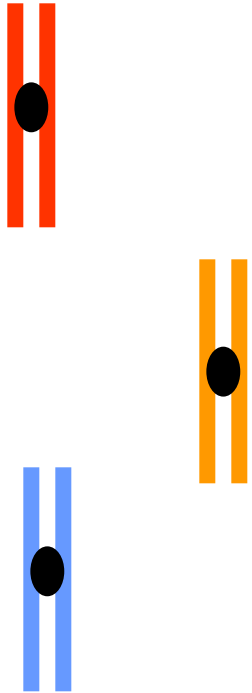


**CROSSING-OVER
ABSENT**

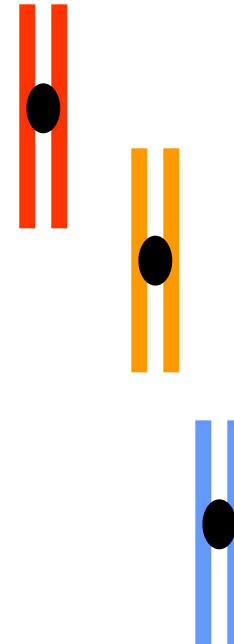


METAPHASE-II

METAPHASE - II



CHROMOSOMES



CHROMOSOMES

METAPHASE - II

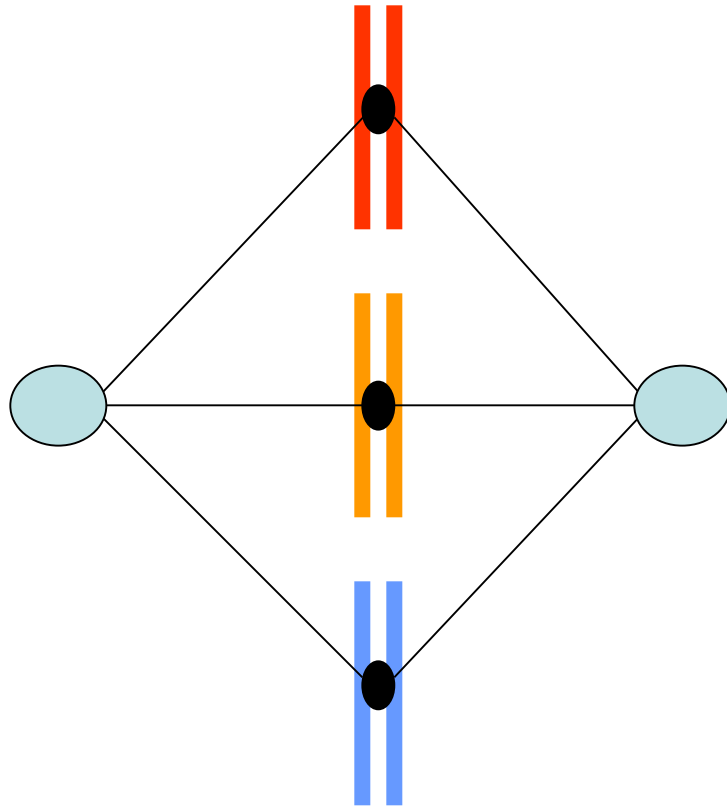


**EQUATORIAL
PLANE**

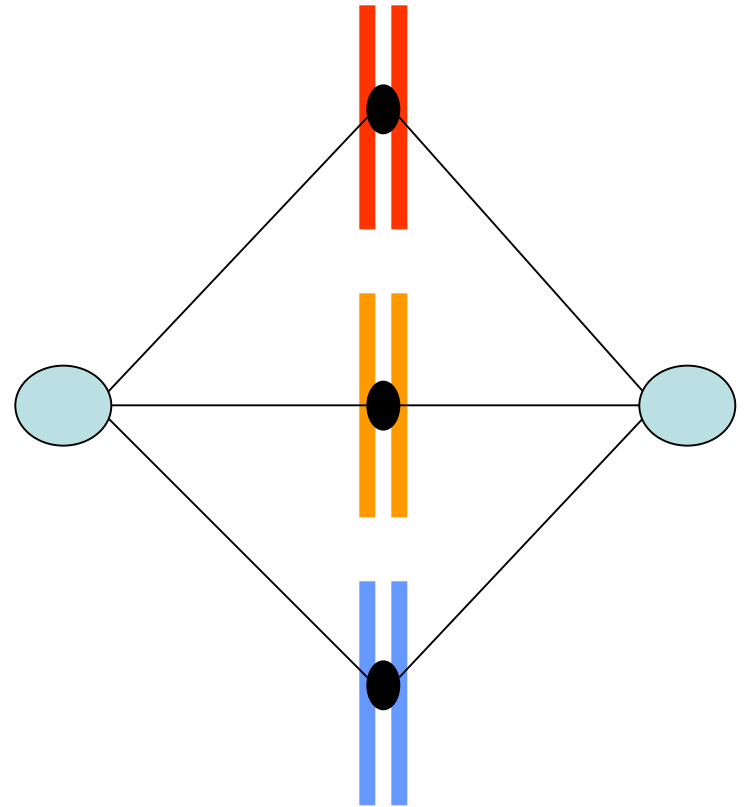


**EQUATORIAL
PLANE**

METAPHASE - II



**MICROTUBULES
FORM
SPINDLE COMPLEX**

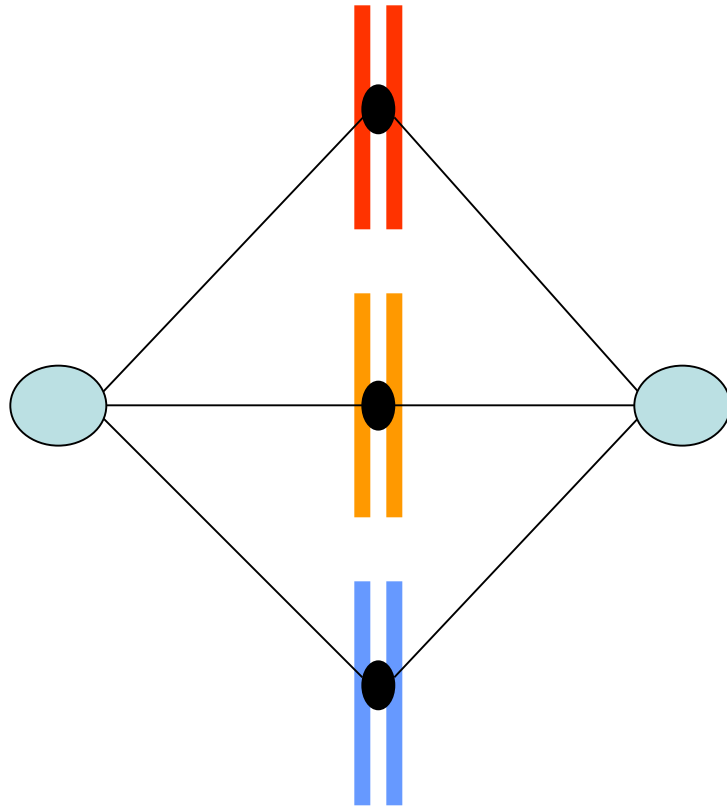


**MICROTUBULES
FORM
SPINDLE COMPLEX**

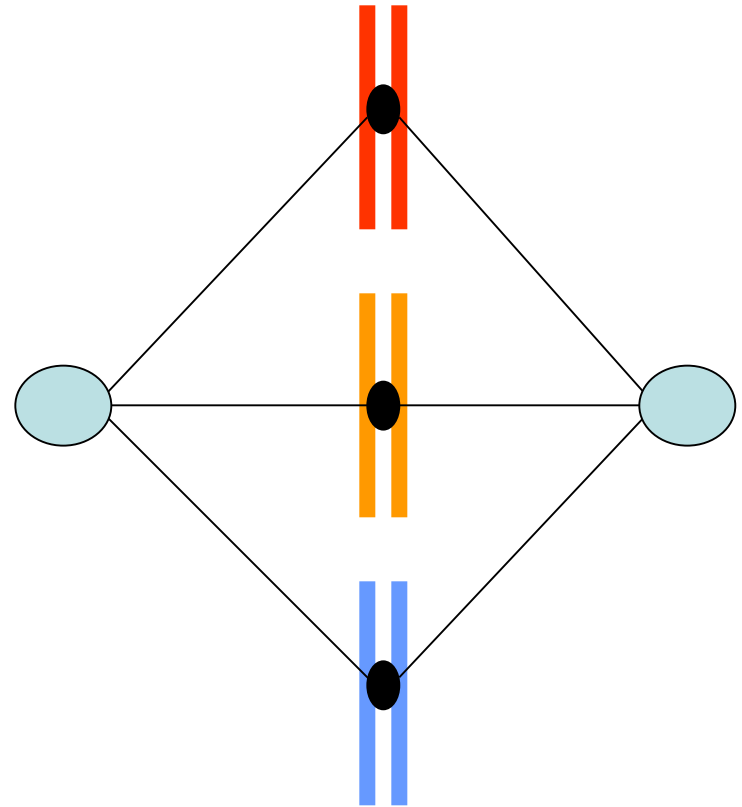


ANAPHASE-II

ANAPHASE - II

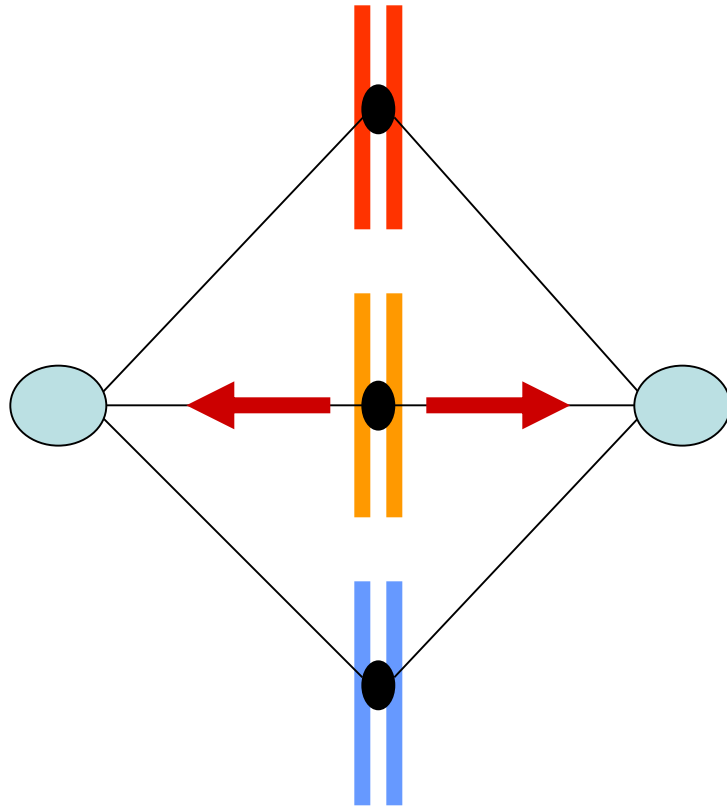


**MICROTUBULE
SPINDLE COMPLEX**

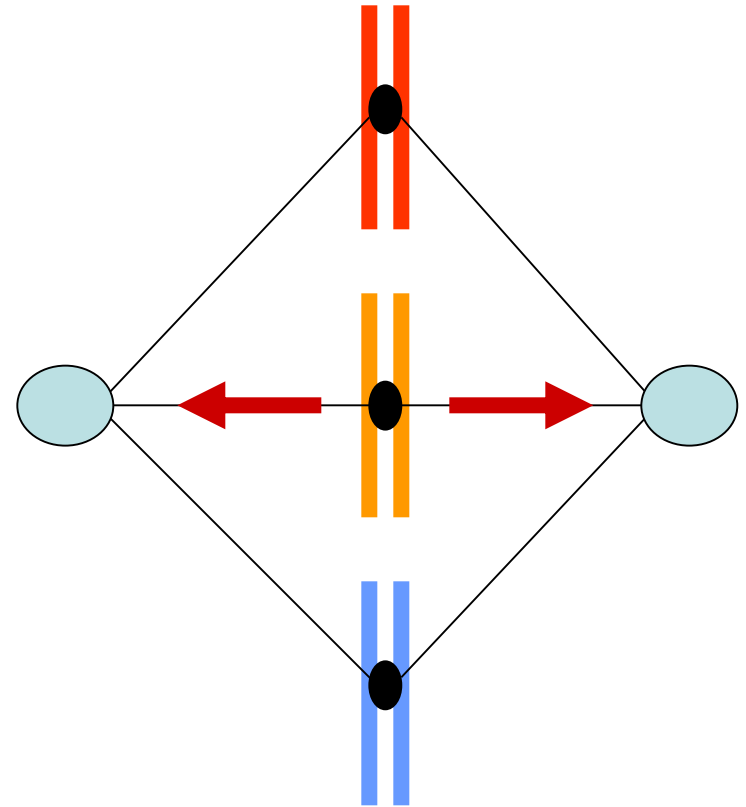


**MICROTUBULE
SPINDLE COMPLEX**

ANAPHASE - II

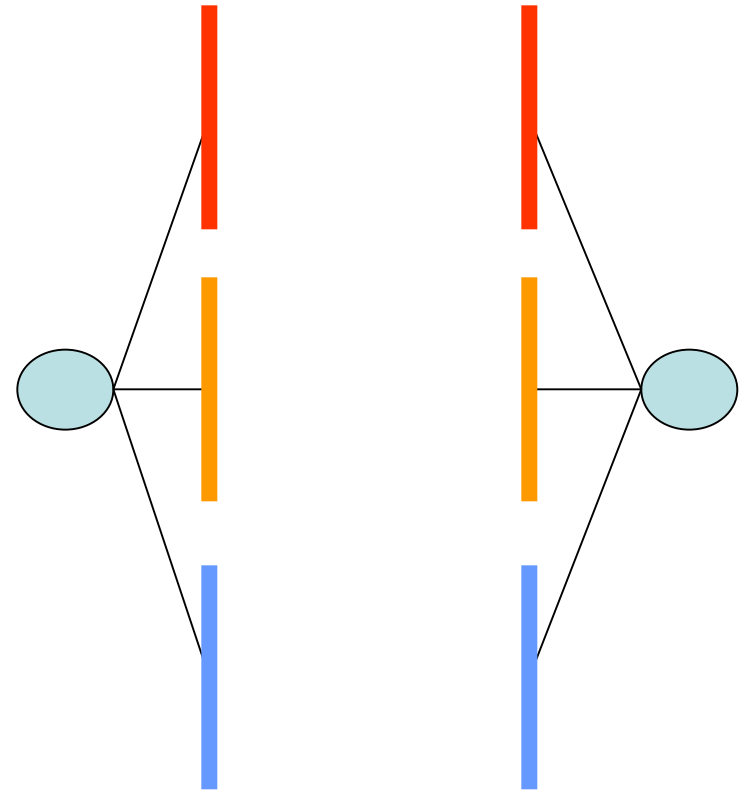
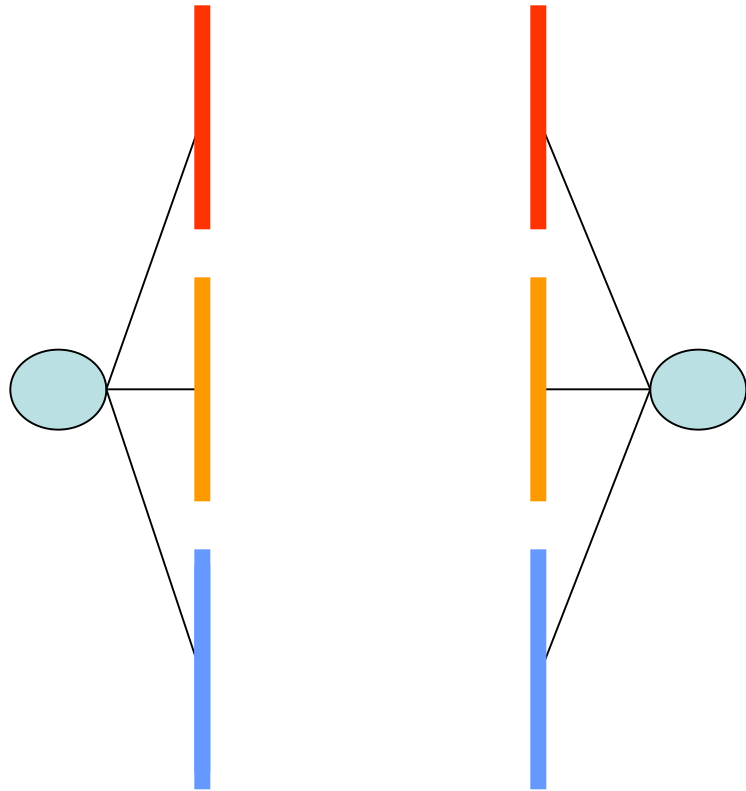


**SPINDLE COMPLEX
CONTRACTS**



**SPINDLE COMPLEX
CONTRACTS**

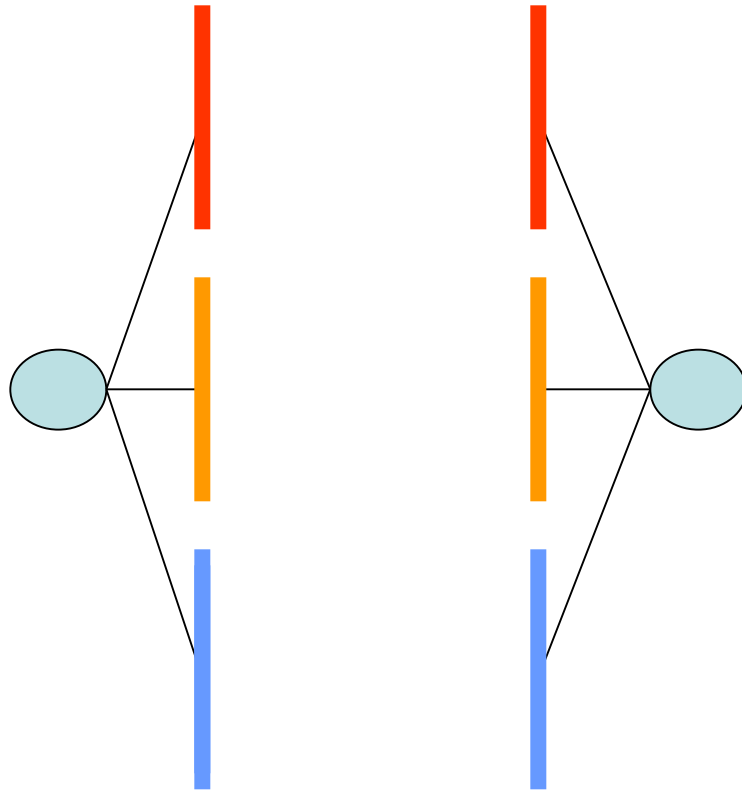
ANAPHASE - II



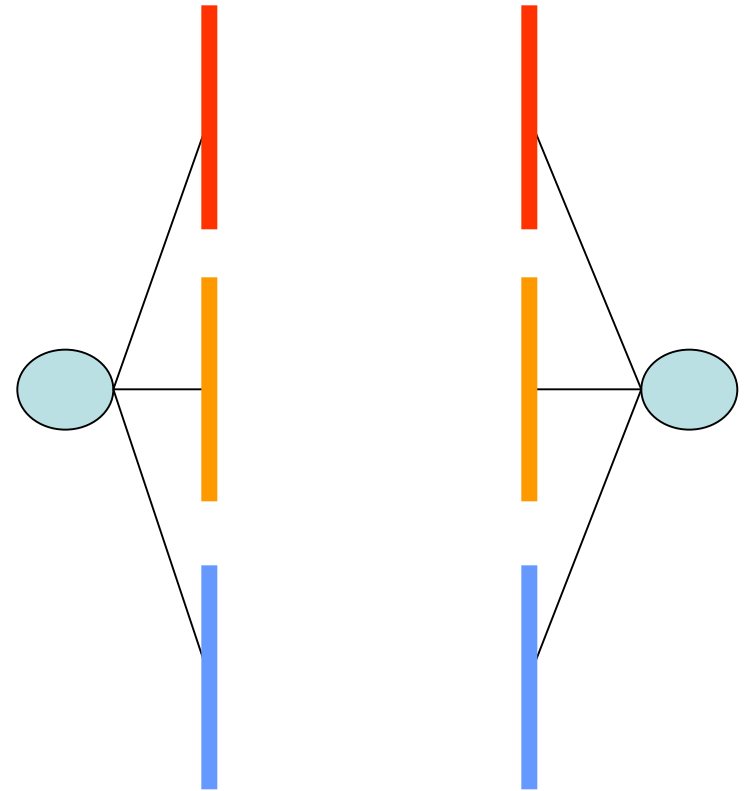
?
BREAKDOWN

?
BREAKDOWN

ANAPHASE - II

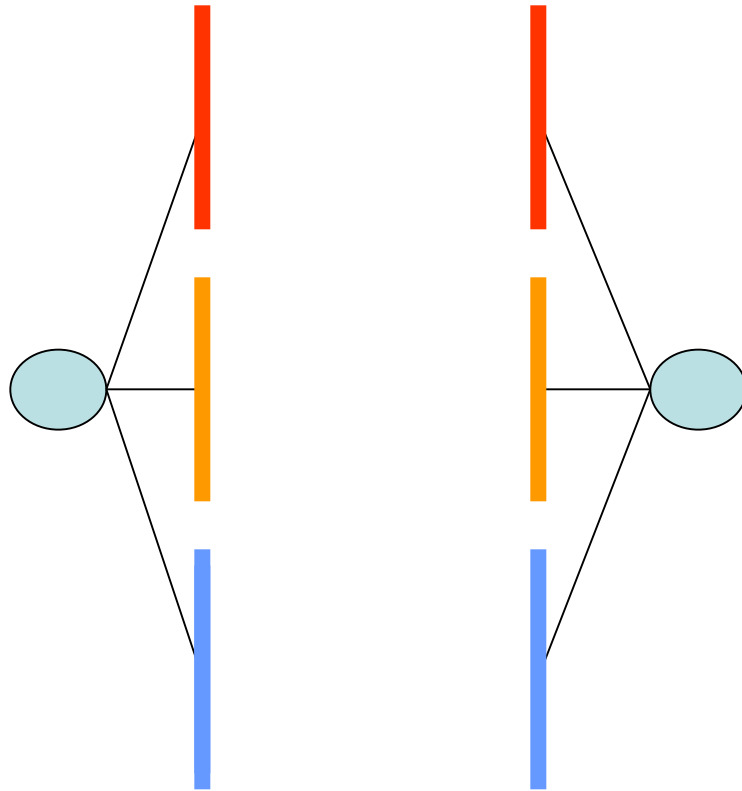


**CENTROMERES
BREAKDOWN**

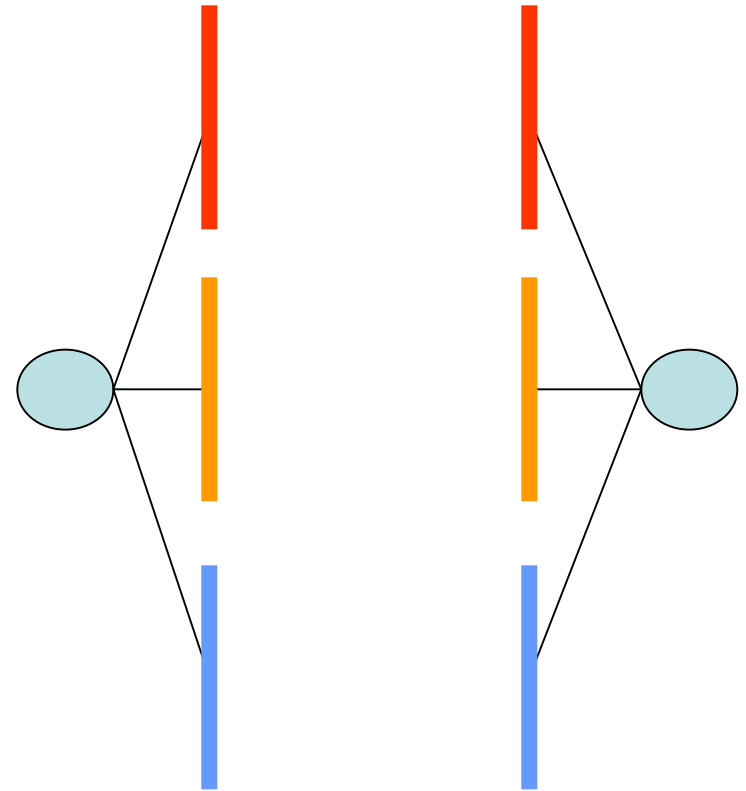


**CENTROMERES
BREAKDOWN**

ANAPHASE - II

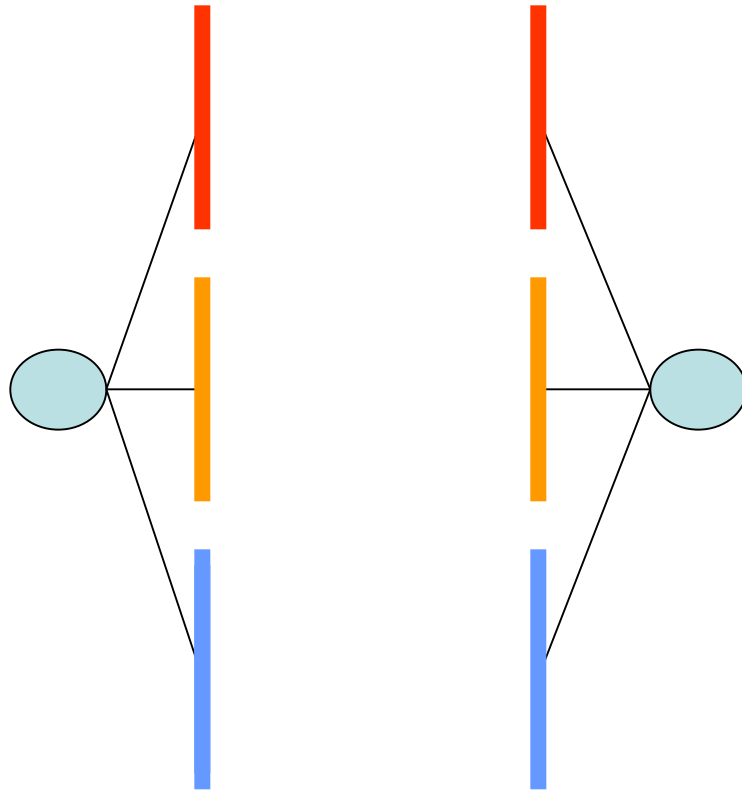


**CHROMATIDS
SEPARATE**

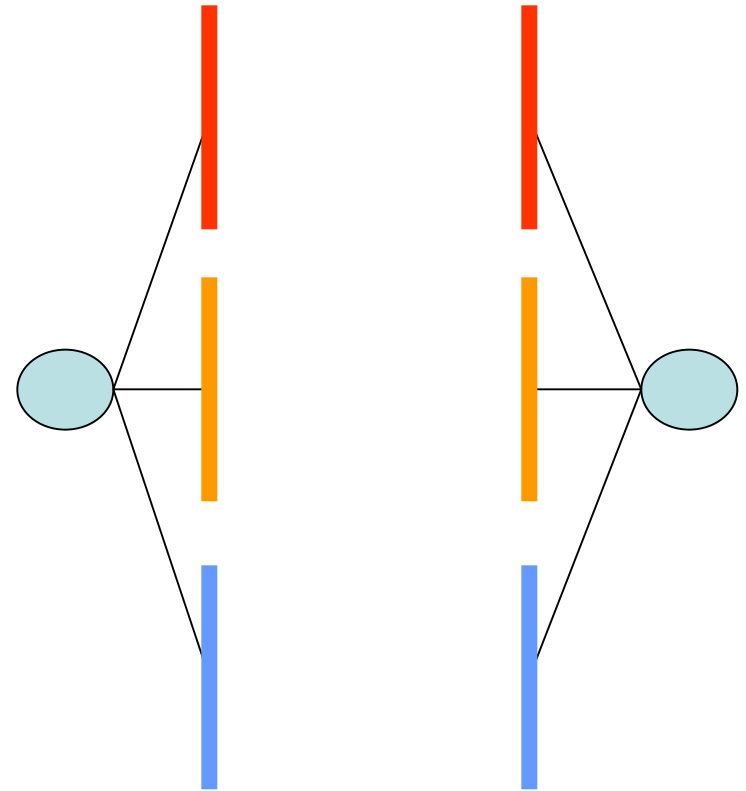


**CHROMATIDS
SEPARATE**

ANAPHASE - II

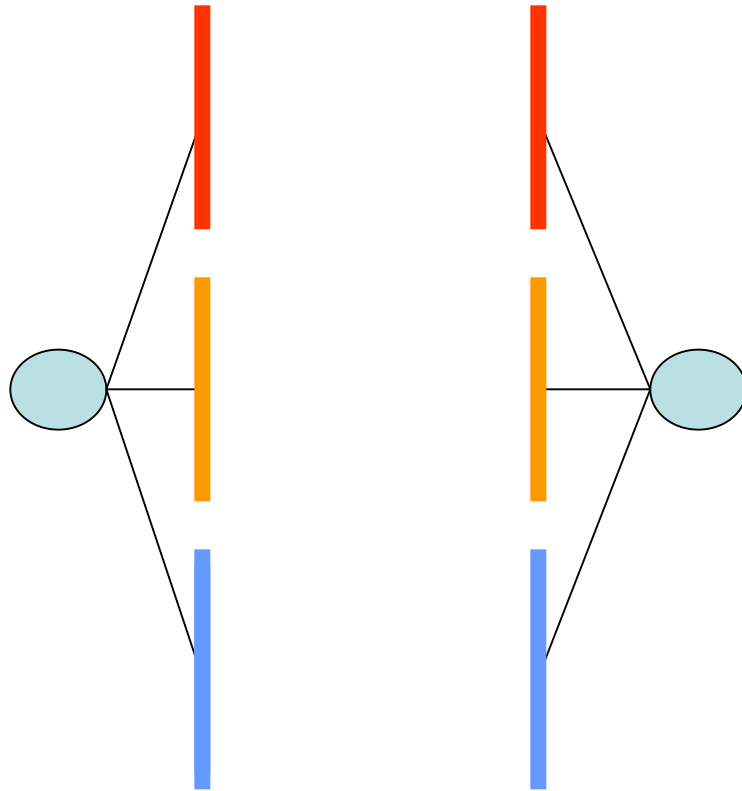


**DAUGHTER
CHROMOSOMES**

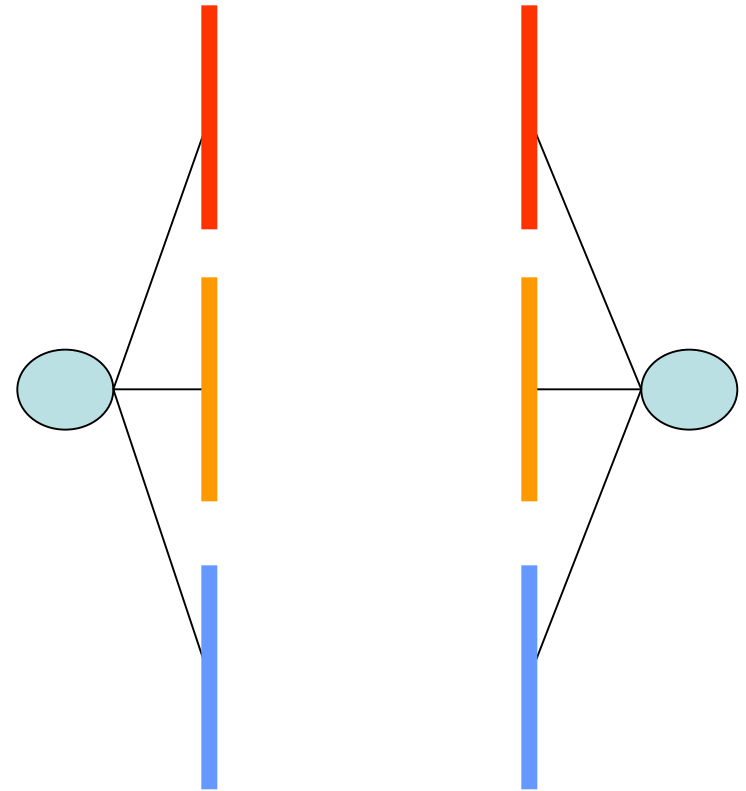


**DAUGHTER
CHROMOSOMES**

ANAPHASE - II



**CHROMOSOMES
OPPOSITE POLES**

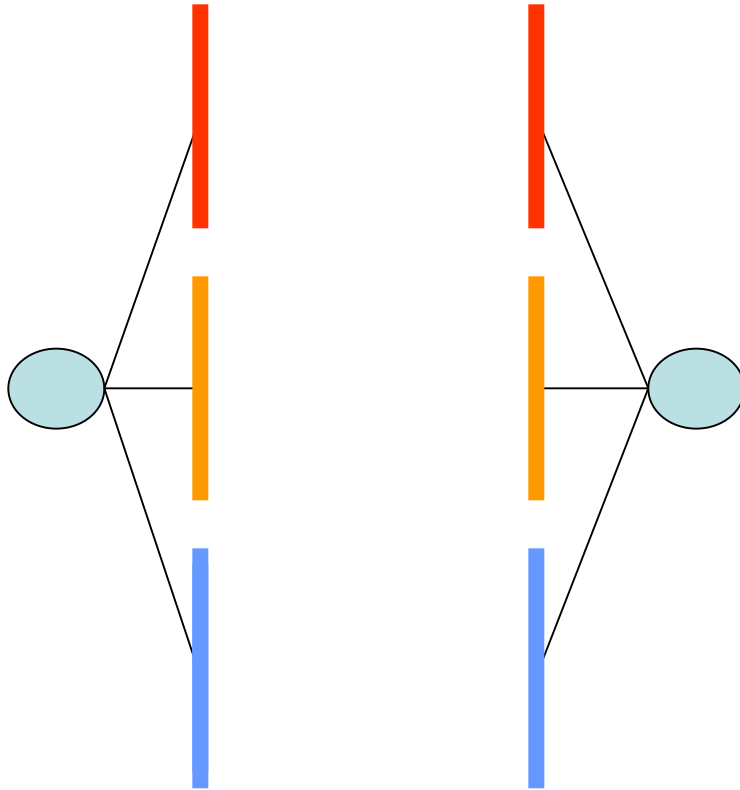


**CHROMOSOMES
OPPOSITE POLES**

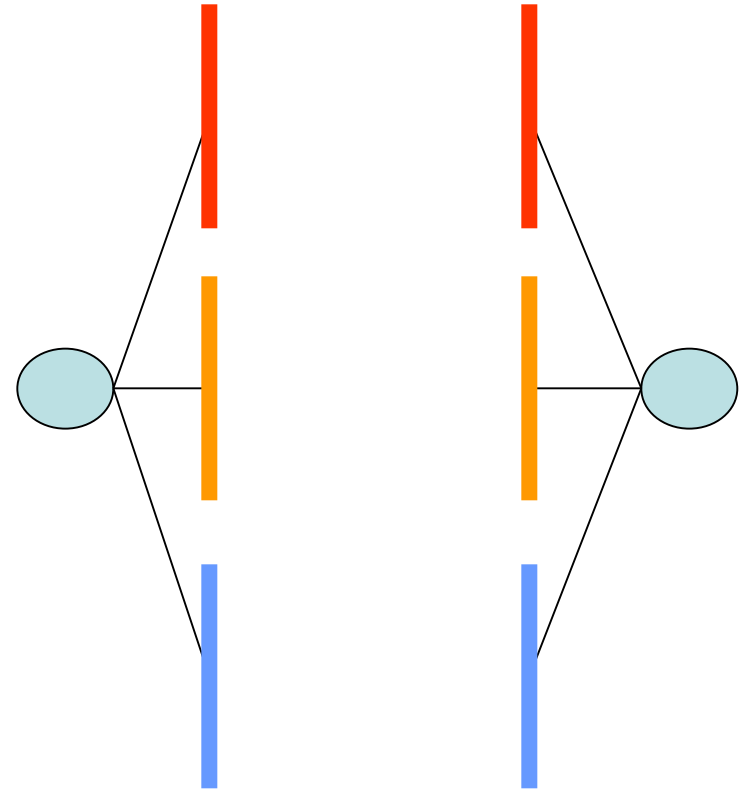


TELOPHASE-II

TELOPHASE - II

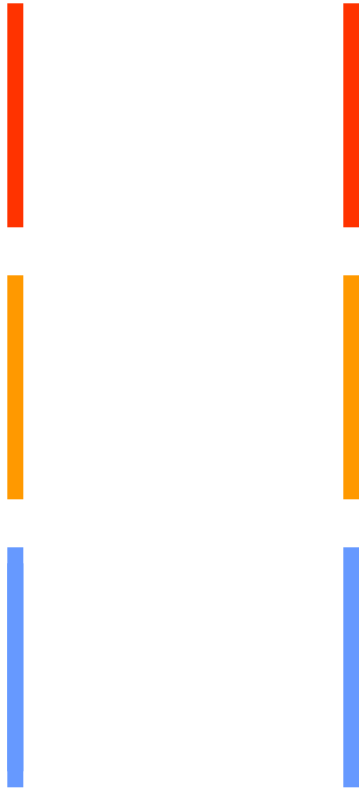


**CHROMOSOMES
OPPOSITE
POLES**



**CHROMOSOMES
OPPOSITE
POLES**

TELOPHASE - II

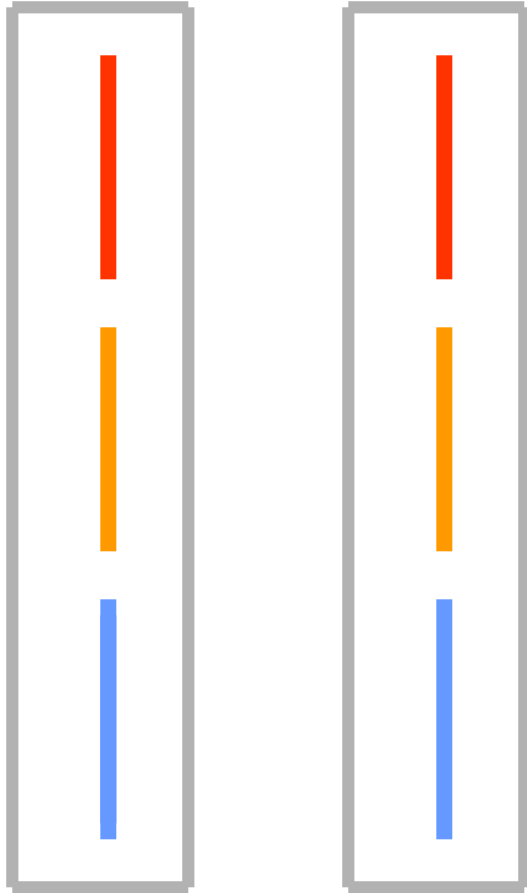


**SPINDLE COMPLEX
DISSIPATES**

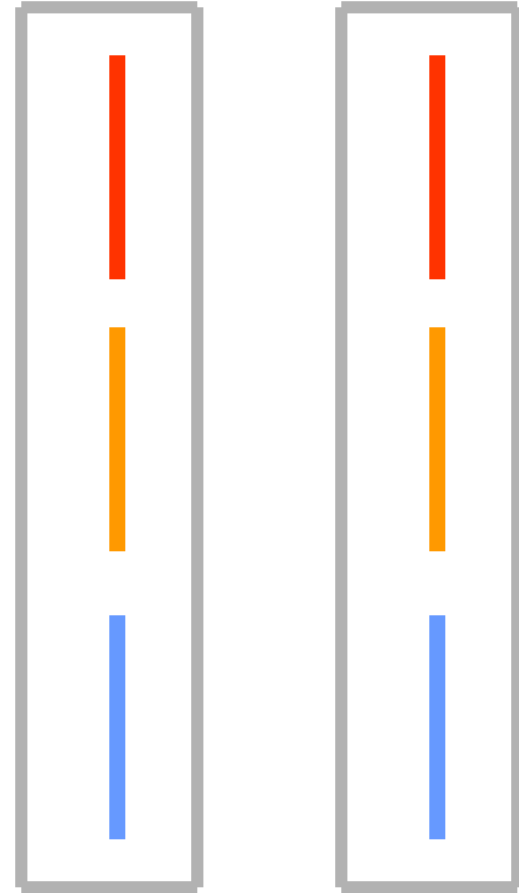


**SPINDLE COMPLEX
DISSIPATES**

TELOPHASE - II

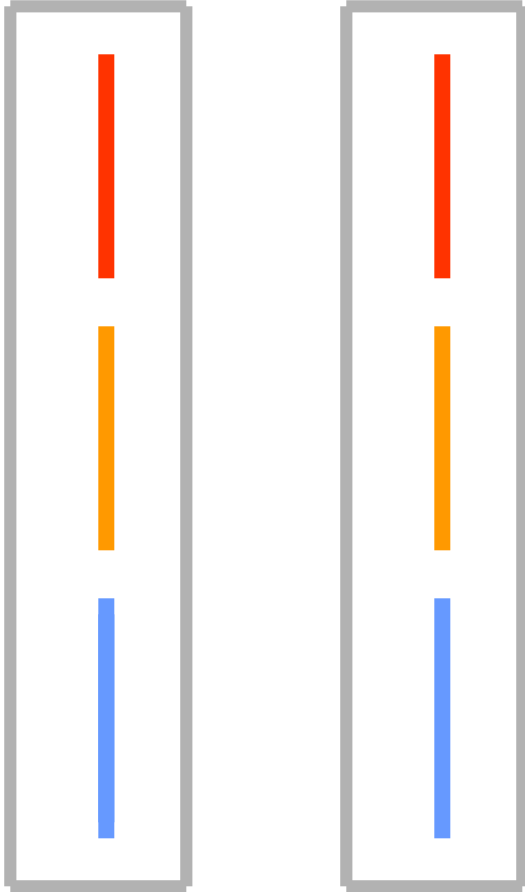


**NUCLEAR MEMBRANE
FORMS**

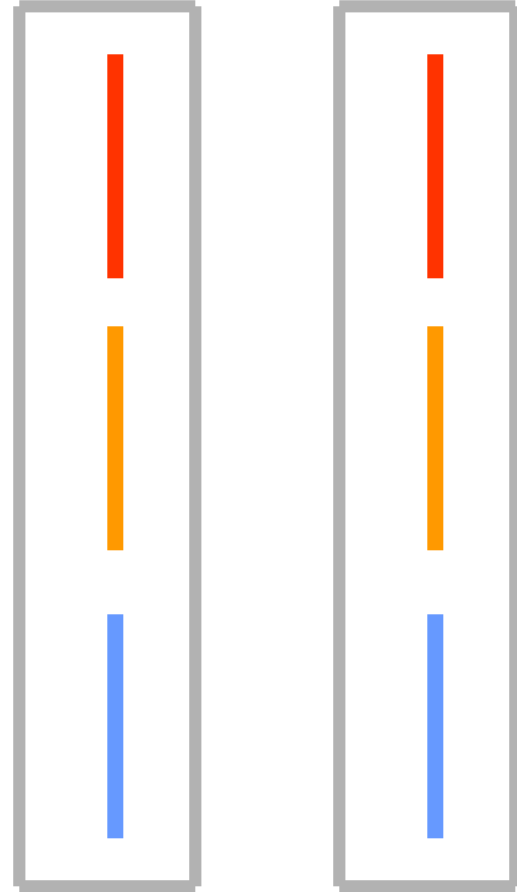


**NUCLEAR MEMBRANE
FORMS**

TELOPHASE - II



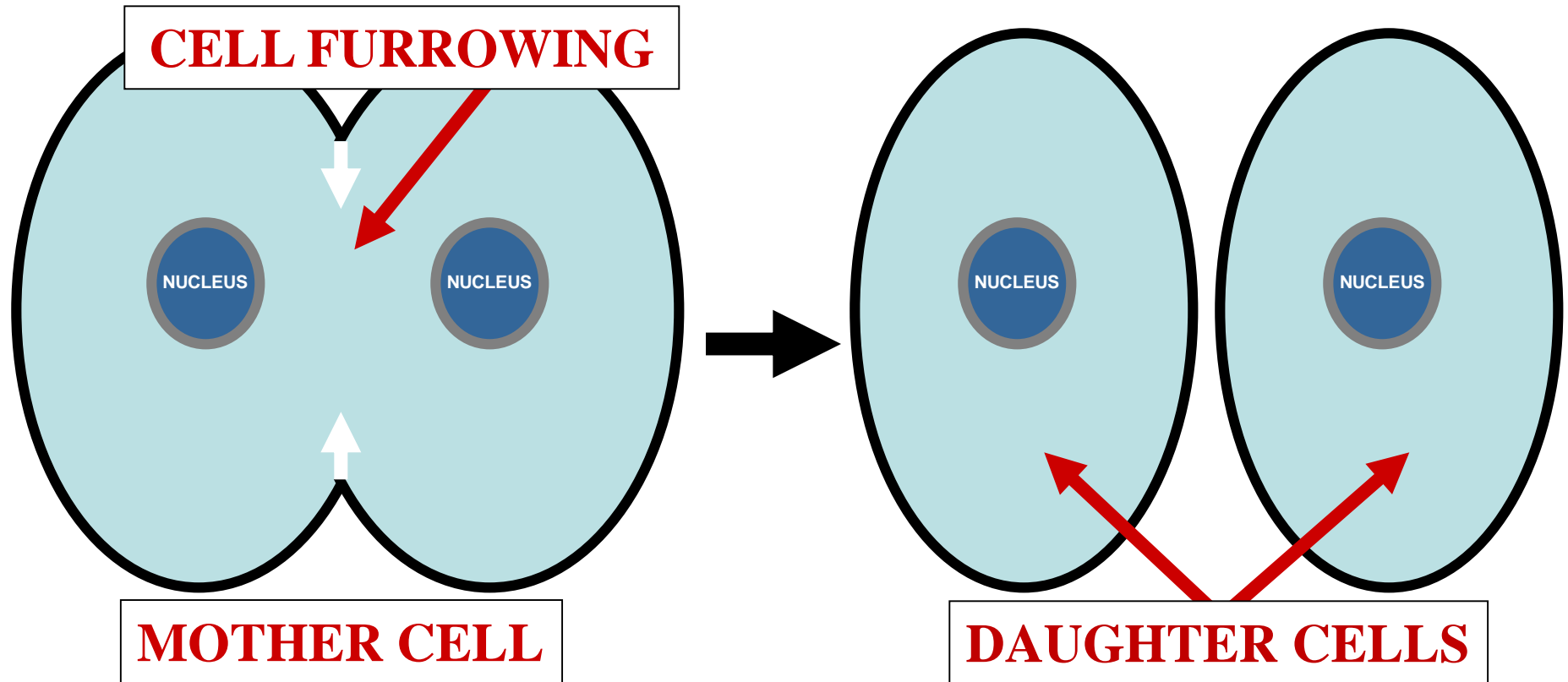
**2 DAUGHTER
NUCLEI**



**2 DAUGHTER
NUCLEI**

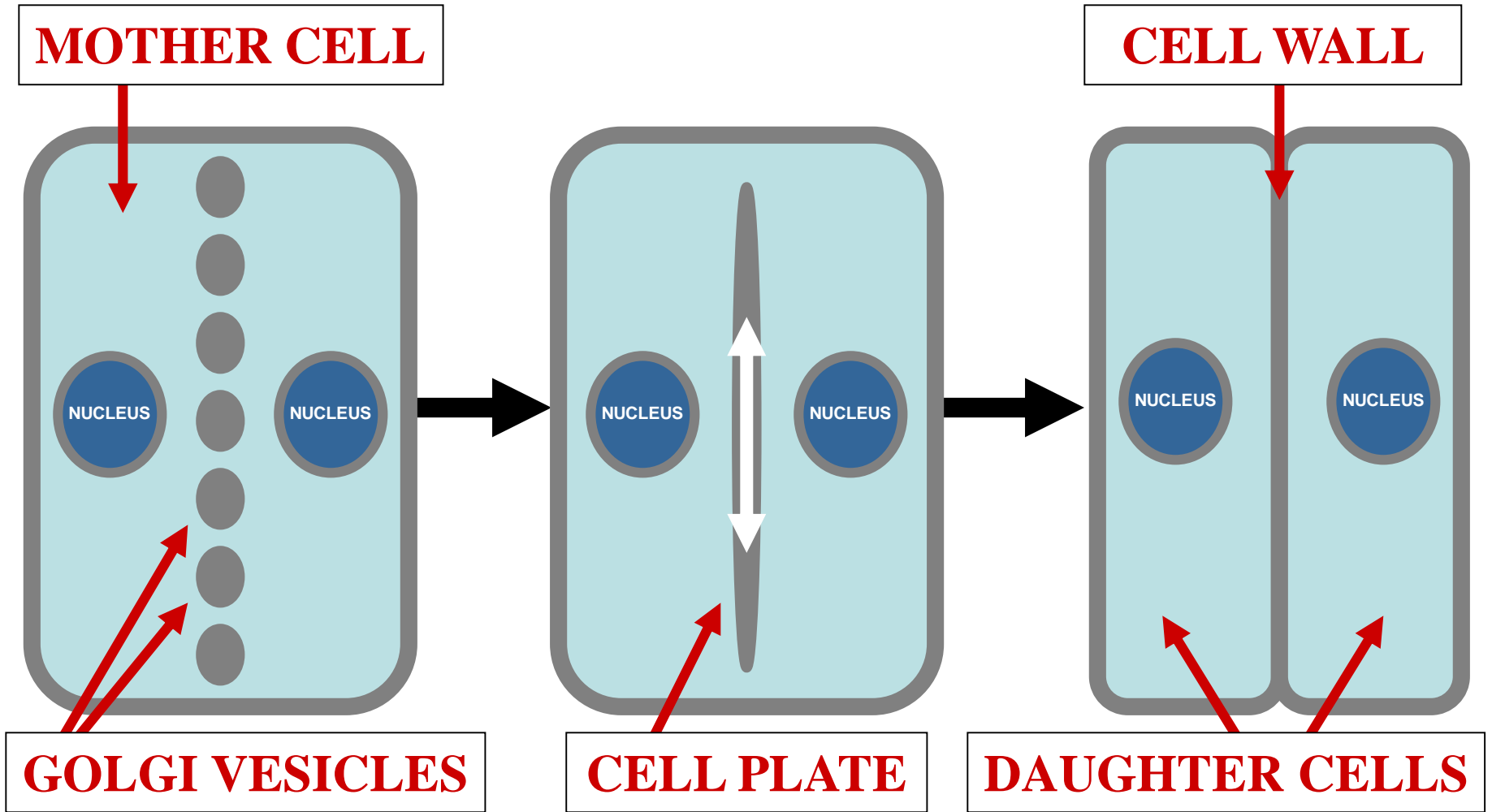
CYTOKINESIS-II

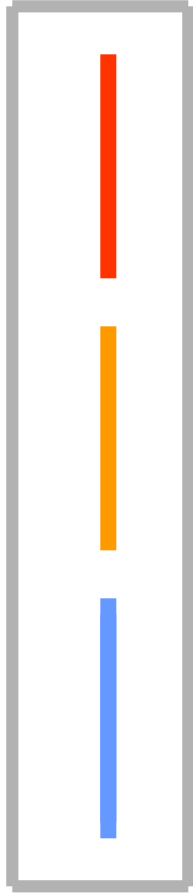
CYTOKINESIS FURROWING



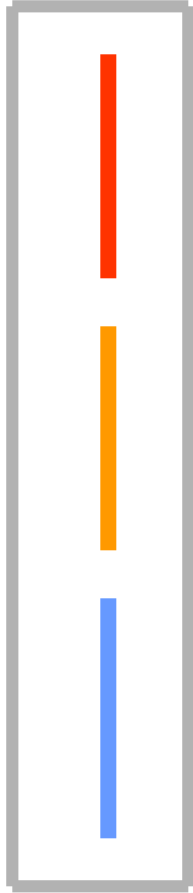
CYTOKINESIS FURROWING

CYTOKINESIS CELL PLATE

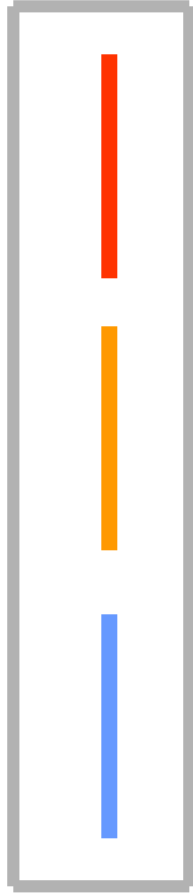




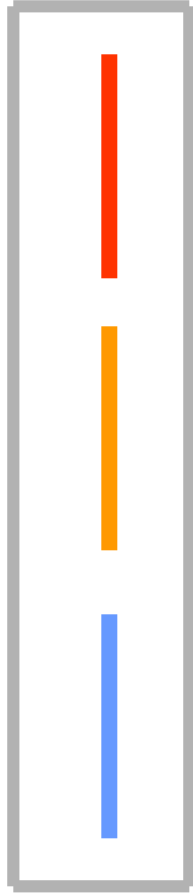
CELL



CELL



CELL



CELL



**TRUE PLANT
GERM
CELL CYCLE
OUTCOME**

TRUE PLANT GERM CELL

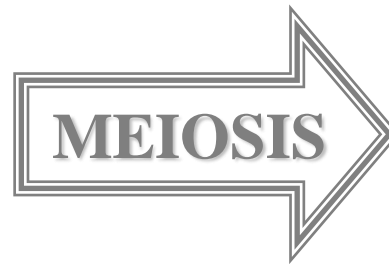
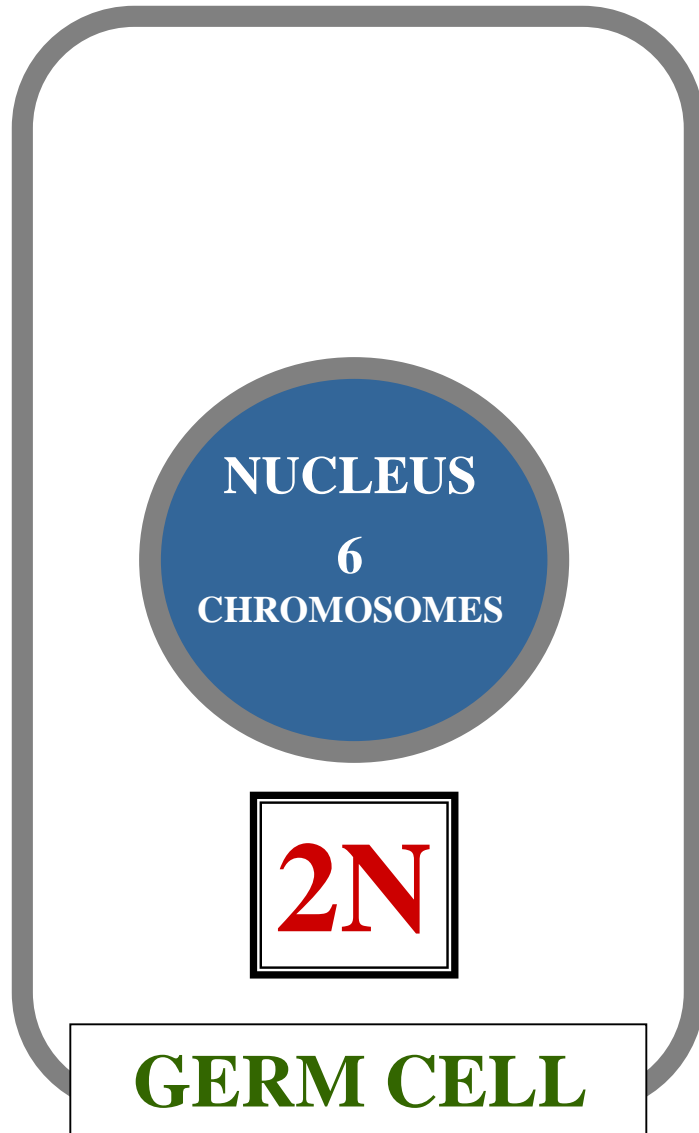


NUCLEUS
6
CHROMOSOMES

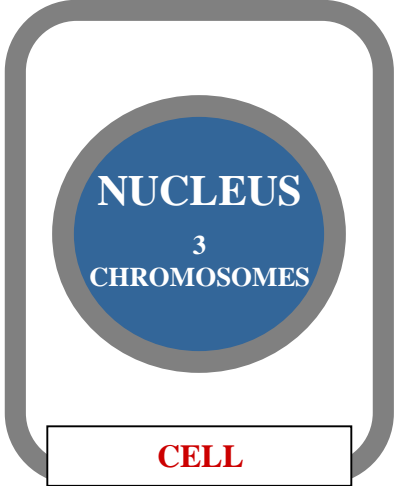
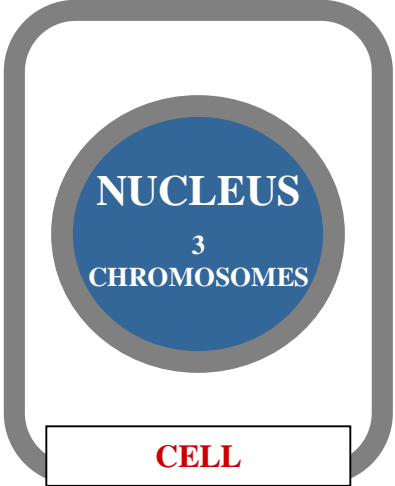
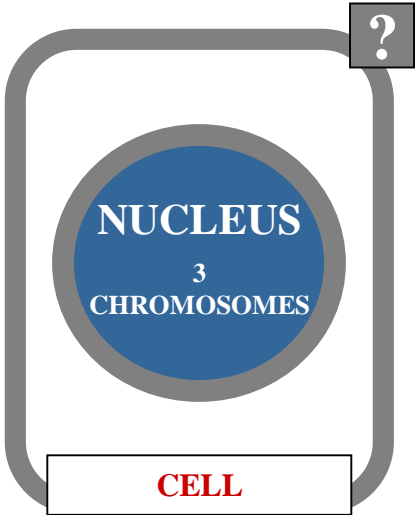
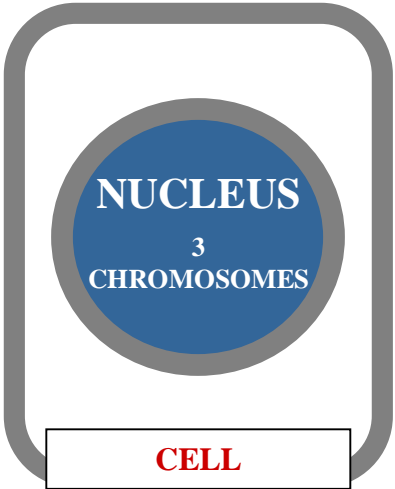
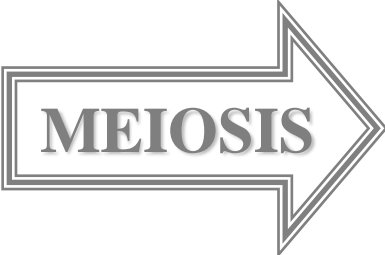
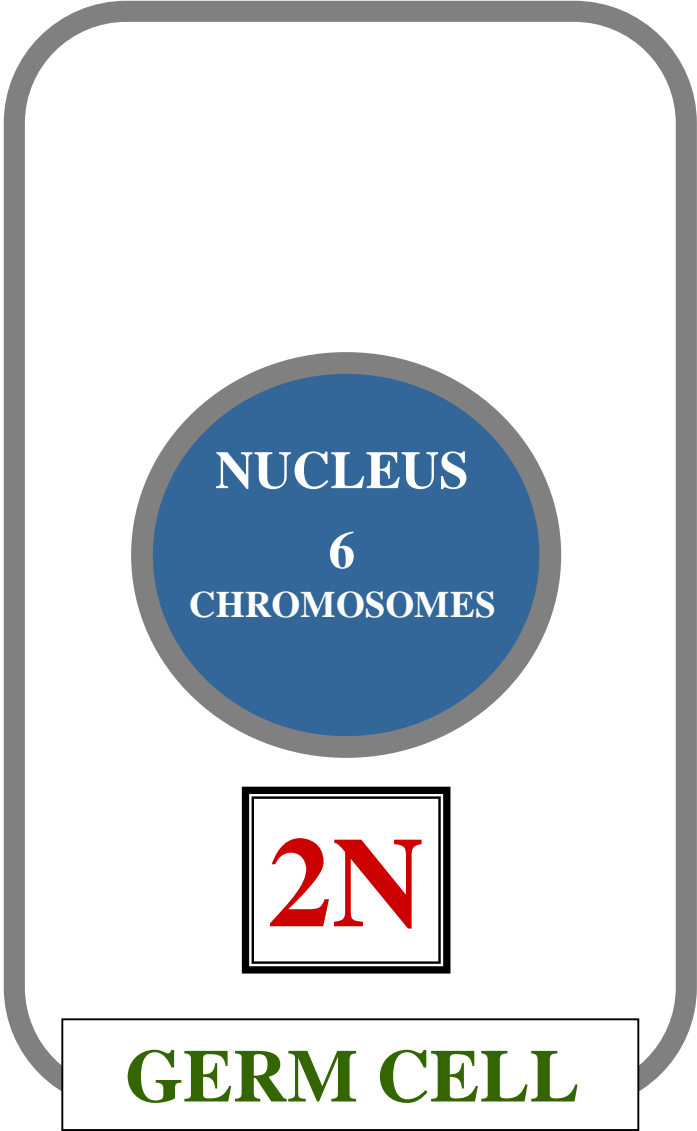
2N

GERM CELL

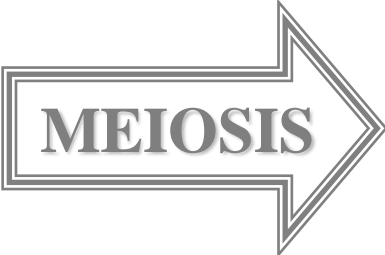
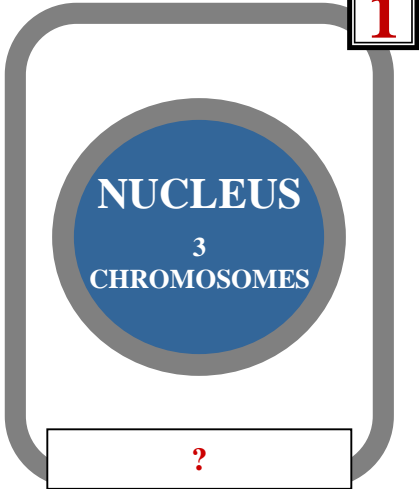
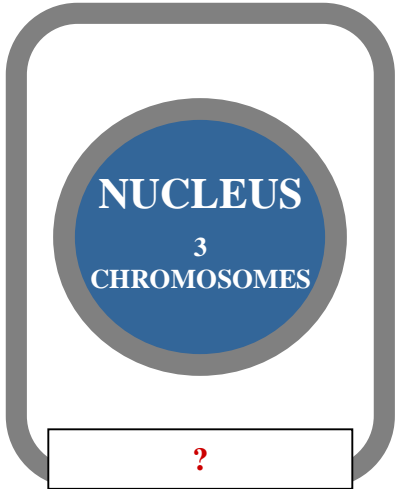
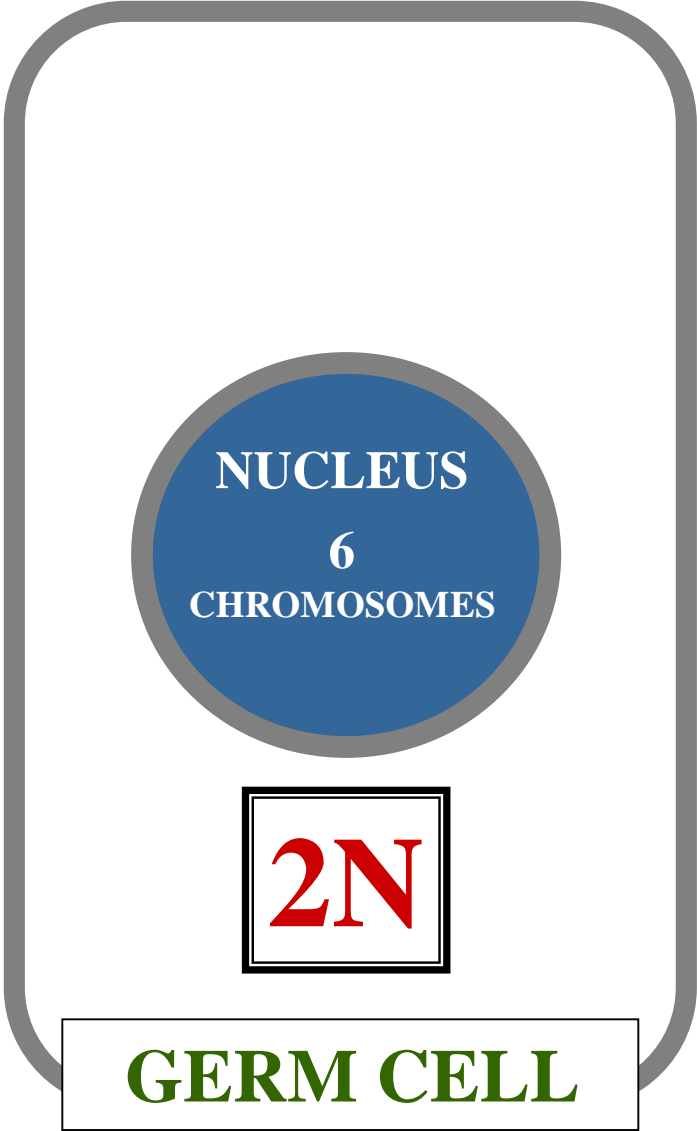
TRUE PLANT GERM CELL



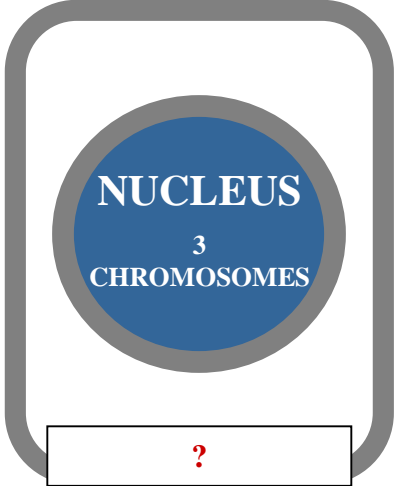
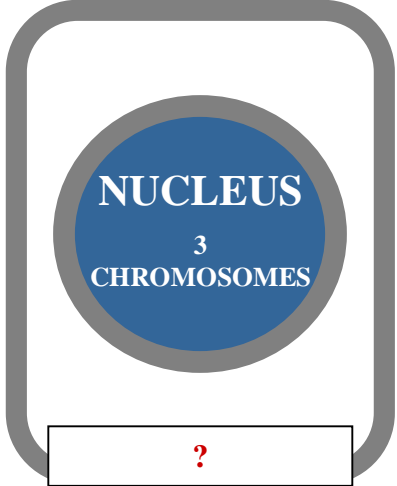
TRUE PLANT GERM CELL



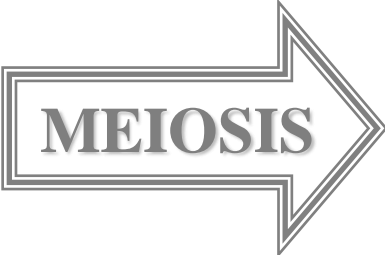
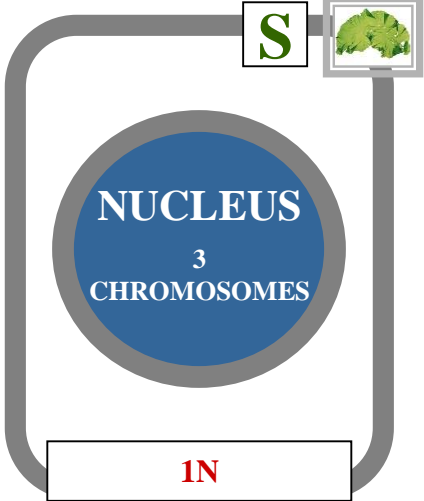
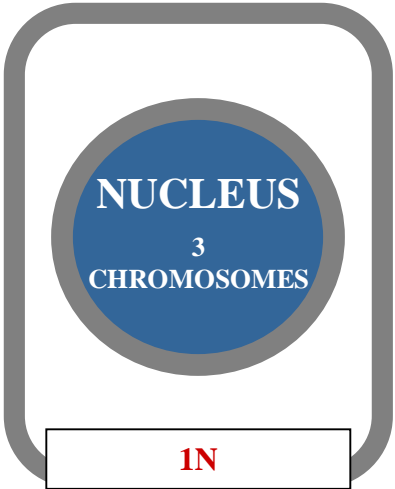
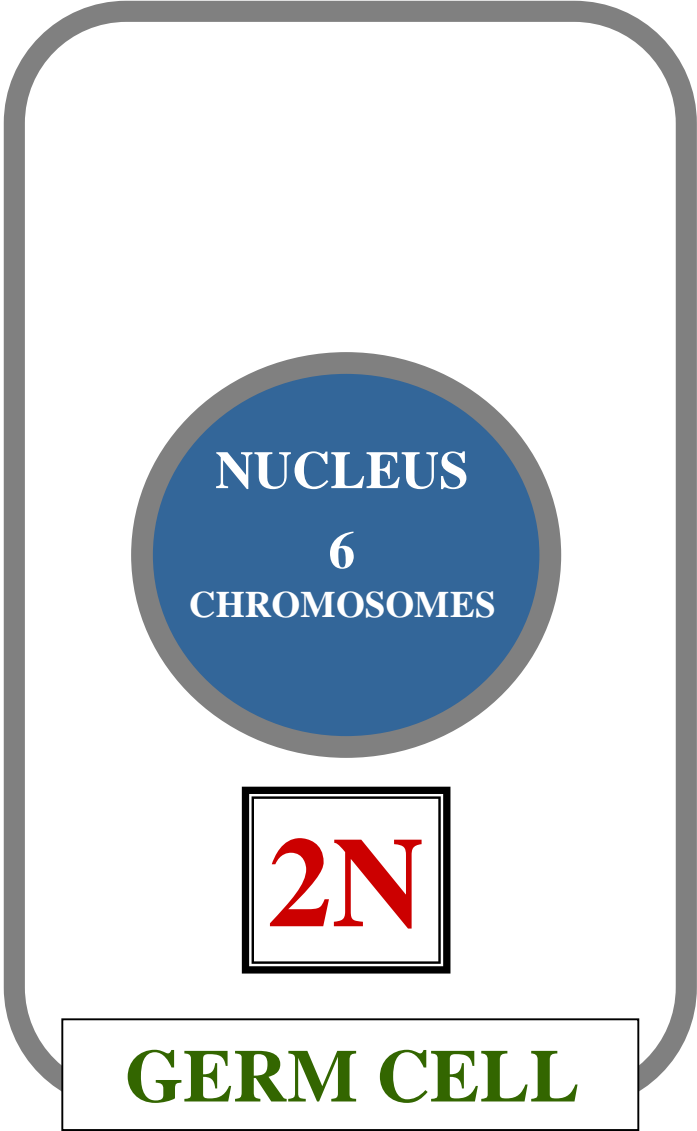
TRUE PLANT GERM CELL



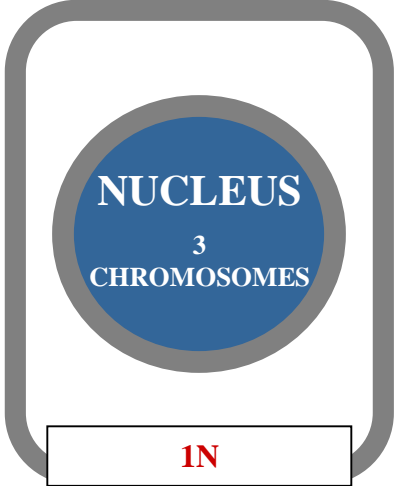
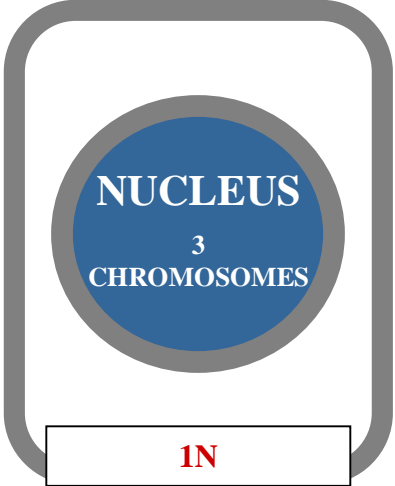
1/2 REDUCTION



TRUE PLANT GERM CELL



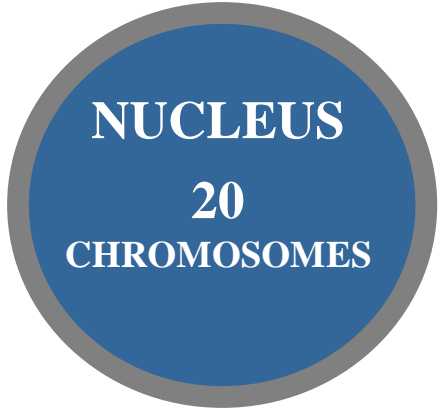
1/2 REDUCTION



TRUE PLANT GERM CELL

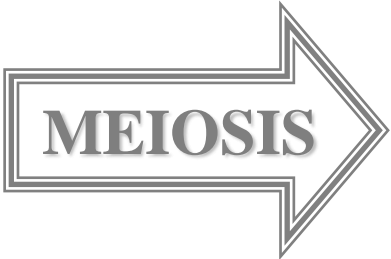
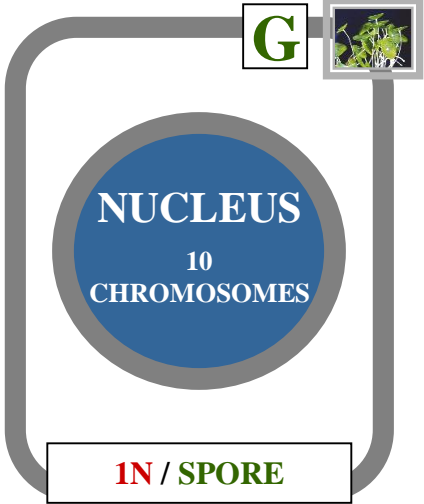
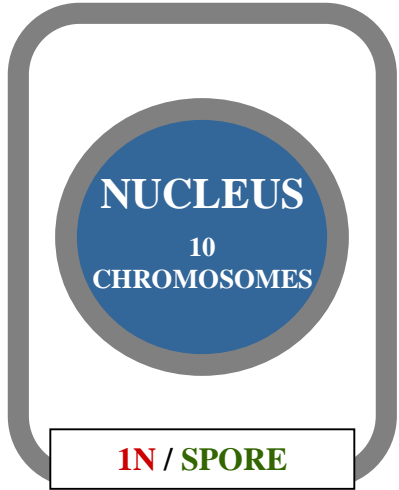


Ulva

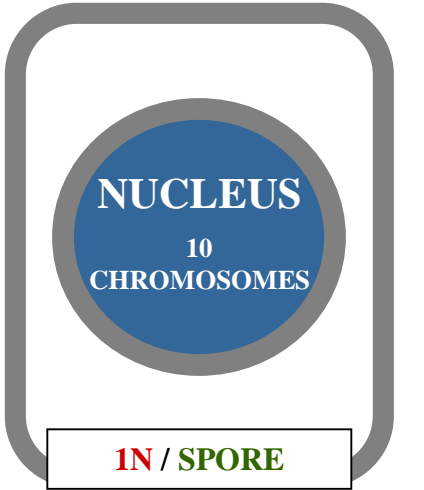
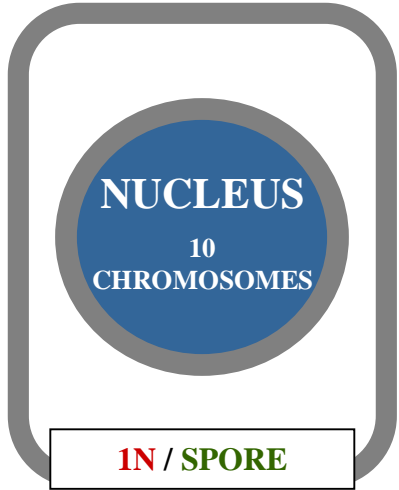


SPORANGIA

GERM CELL



1/2 REDUCTION



TRUE PLANT GERM CELL



NUCLEUS
20
CHROMOSOMES

GAMETANGIA

GERM CELL

NUCLEUS
10
CHROMOSOMES

1N / GAMETE

NUCLEUS
10
CHROMOSOMES

1N / GAMETE

MEIOSIS

1/2 REDUCTION

NUCLEUS
10
CHROMOSOMES

1N / GAMETE

NUCLEUS
10
CHROMOSOMES

1N / GAMETE



GAMETES

GAMETE TYPES

GAMETE TYPES

ISOGAMOUS

GAMETE TYPES

GAMETE TYPES

ISOGAMOUS

ANISOGAMOUS

GAMETE TYPES

GAMETE TYPES

ISOGAMOUS

ANISOGAMOUS

OOGAMOUS

GAMETE TYPES

GAMETE TYPES

M = MALE GAMETE

GAMETE TYPES

GAMETE TYPES

M = MALE GAMETE

F = FEMALE GAMETE

GAMETE TYPES

ISOGAMOUS



ISOGAMOUS GAMETES

**M&F GAMETE
EQUAL SIZE**

ISOGAMOUS GAMETES



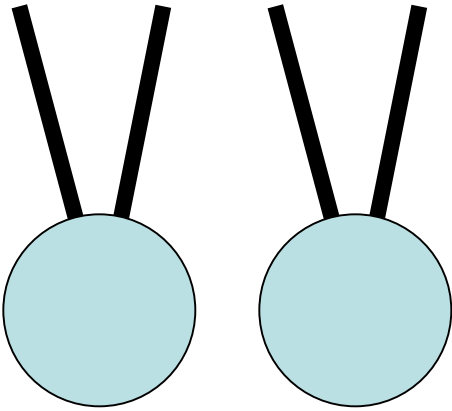
ISOGAMOUS GAMETES

M&F GAMETE
EQUAL SIZE

M&F GAMETE
MOTILE

ISOGAMOUS GAMETES

GAMETE TYPES



ISOGAMOUS

F = FEMALE GAMETE

———— = FLAGELLUM

ANISOGAMOUS

ANISOGAMOUS GAMETES



M&F GAMETE
DISTINCT SIZE

ANISOGAMOUS GAMETES

ANISOGAMOUS GAMETES

M&F GAMETE
DISTINCT SIZE

F LARGER

ANISOGAMOUS GAMETES

ANISOGAMOUS GAMETES



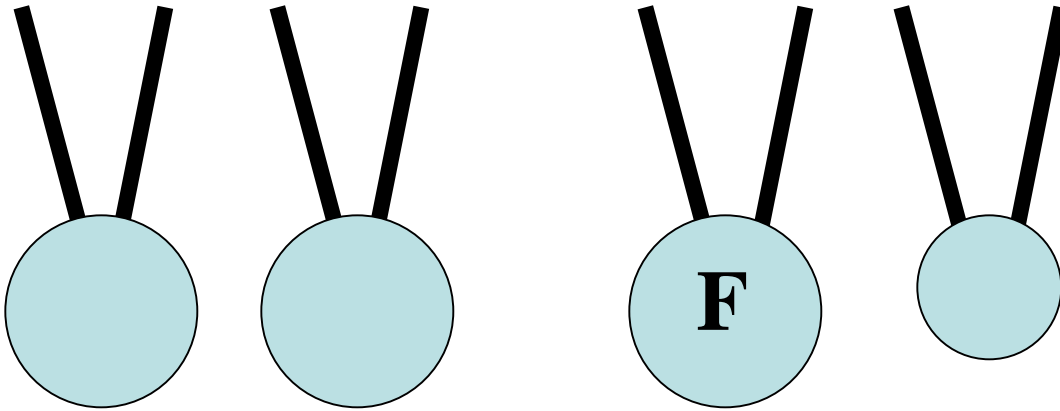
M&F GAMETE
DISTINCT SIZE

F LARGER

M&F GAMETE
MOTILE

ANISOGAMOUS GAMETES

GAMETE TYPES



ISOGAMOUS

ANISOGAMOUS

F = FEMALE GAMETE

———— = FLAGELLUM

OOGAMOUS



OOGAMOUS GAMETES

M&F GAMETE
DISTINCT
SIZE & MOTILITY

OOGAMOUS GAMETES



OOGAMOUS GAMETES

F GAMETE

LARGE

NON-MOTILE

OOGAMOUS GAMETES



OOGAMOUS GAMETES

M GAMETE

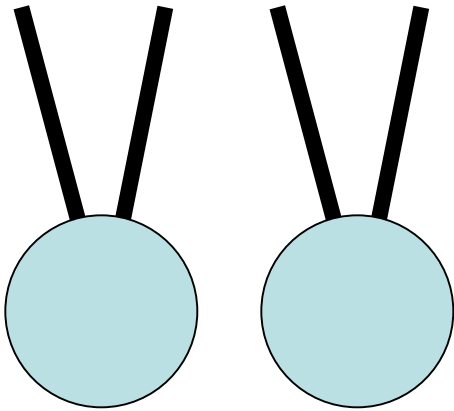
SMALL

MOTILE

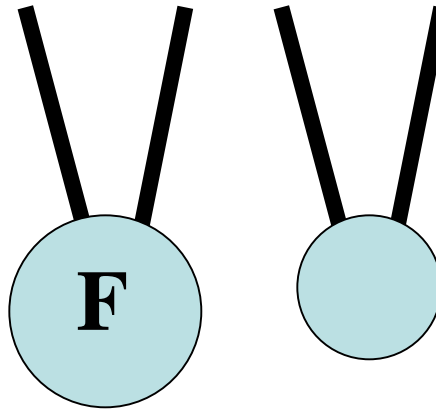
OOGAMOUS GAMETES



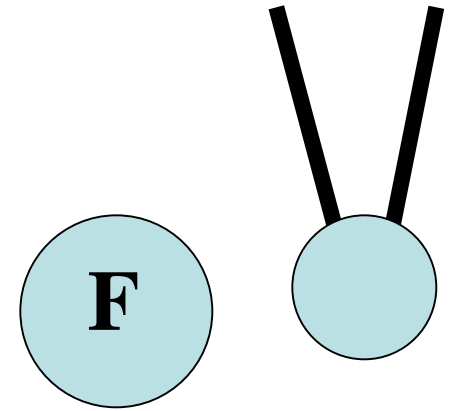
GAMETE TYPES



ISOGAMOUS



ANISOGAMOUS



OOGAMOUS

F = FEMALE GAMETE

———— = FLAGELLUM

FERTILIZATION

FERTILIZATION



FERTILIZATION

**2 HAPLOID
GAMETES FUSE**



FERTILIZATION

FERTILIZATION

2 HAPLOID

GAMETES FUSE



DIPLOID ZYGOTE

FERTILIZATION

ZYGOTE

ZYGOTE

1ST LIFE CYCLE

2N CELL

ZYGOTE