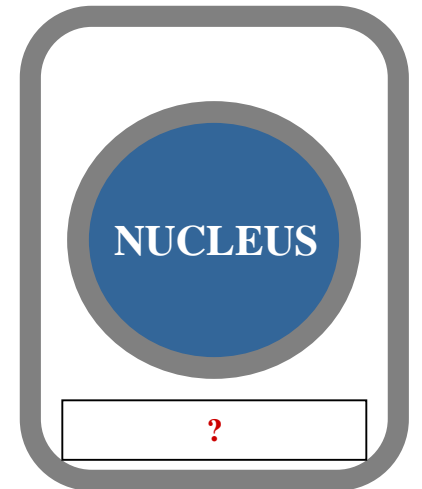
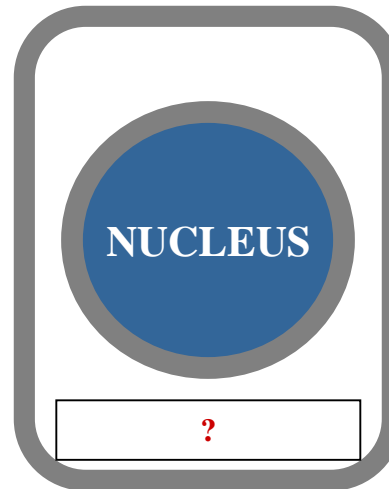
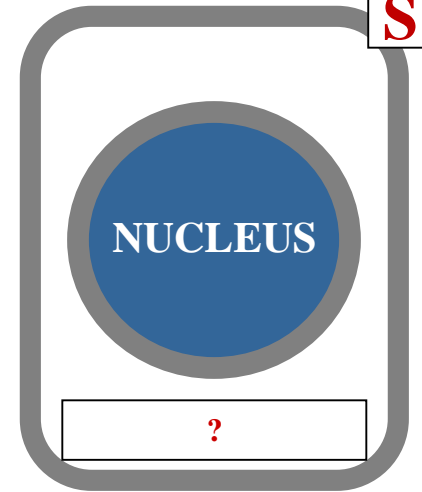
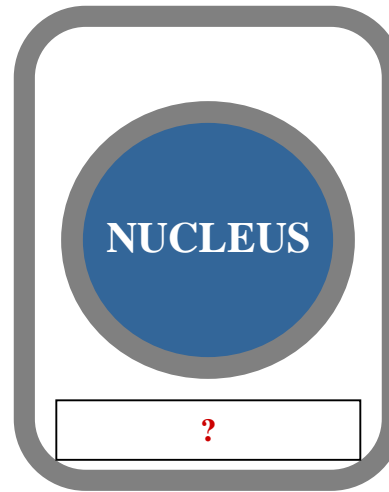
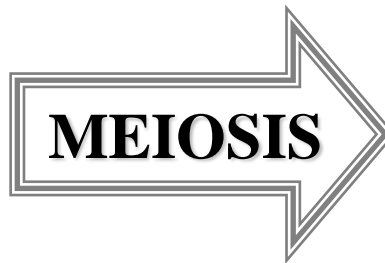




2 HOMOLOGOUS
CHROMOSOME SETS/CELL

SPOROCYTE

GERM CELL

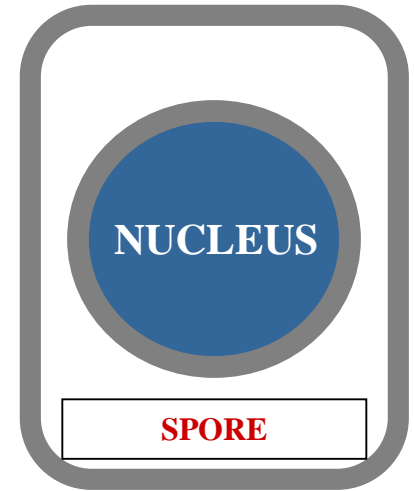
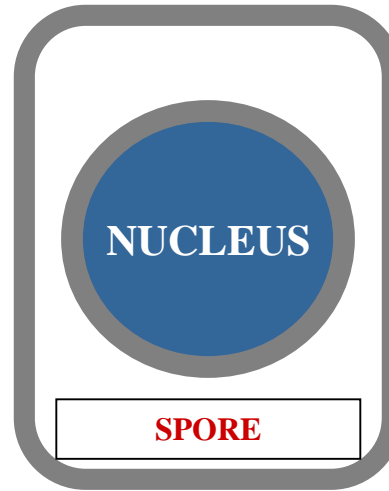
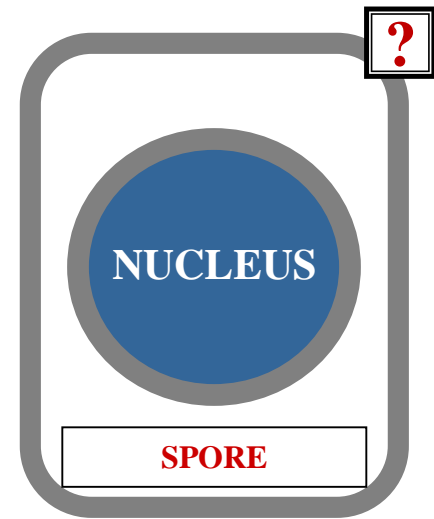
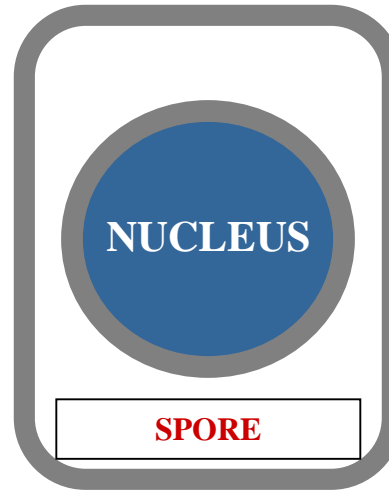
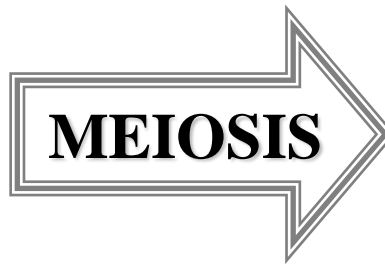




2 HOMOLOGOUS
CHROMOSOME SETS/CELL

SPOROCYTE

GERM CELL

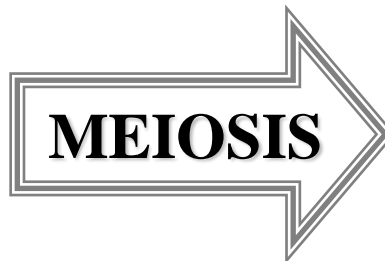
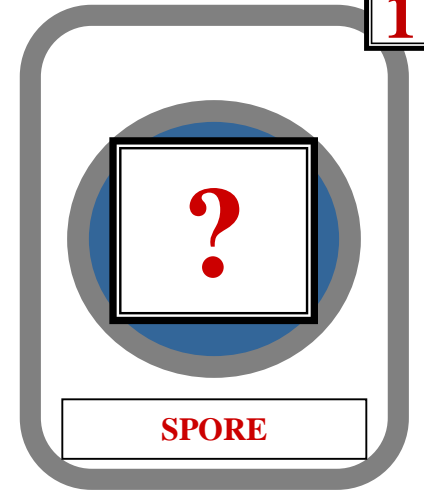
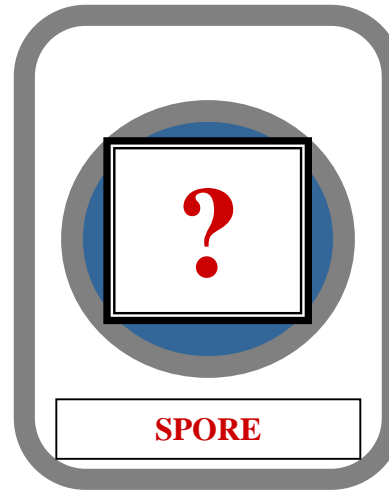




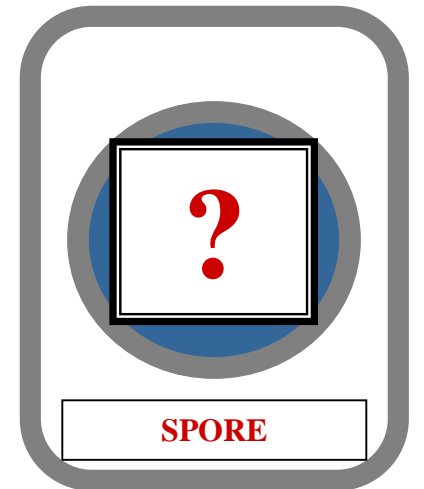
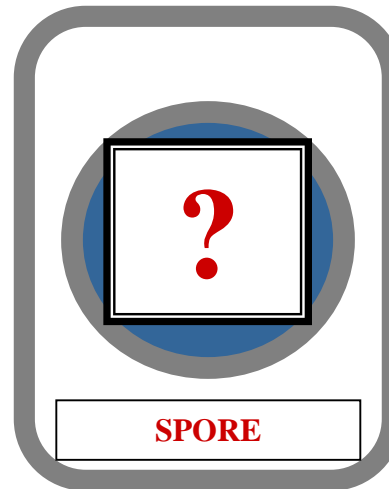
2 HOMOLOGOUS
CHROMOSOME SETS/CELL

SPOROCYTE

GERM CELL



1/2 REDUCTION

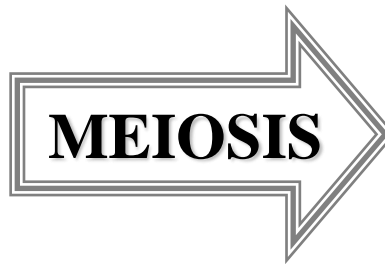




2 HOMOLOGOUS
CHROMOSOME SETS/CELL

SPOROCYTE

GERM CELL



1 HOMOLOGOUS
CHROMOSOME SET/CELL

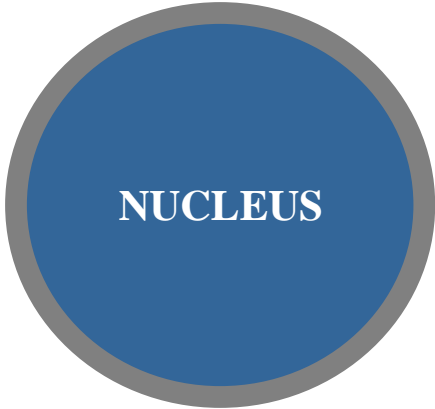




?

ANIMAL LIFE CYCLE





NUCLEUS

?

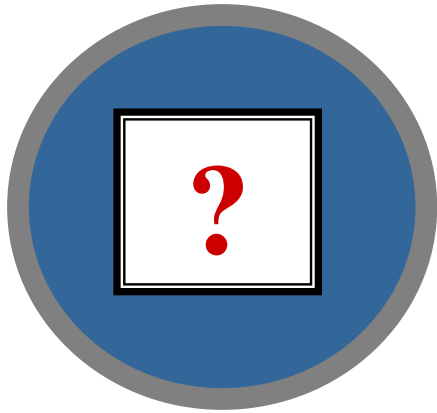
GERM CELL



NUCLEUS

GAMETOCYTE

GERM CELL



GAMETOCYTE

GERM CELL



**2 HOMOLOGOUS
CHROMOSOME SETS/CELL**

GAMETOCYTE

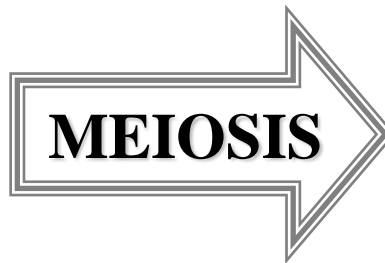
GERM CELL



**2 HOMOLOGOUS
CHROMOSOME SETS/CELL**

GAMETOCYTE

GERM CELL

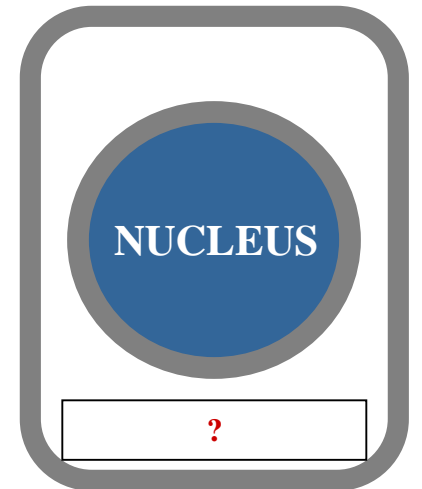
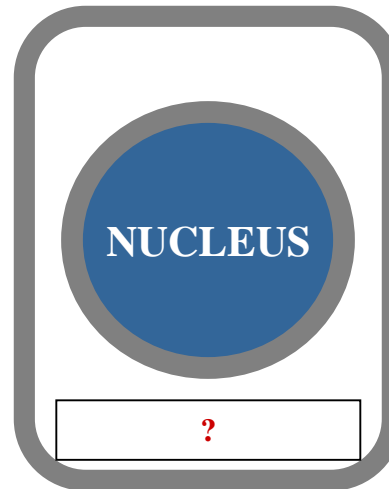
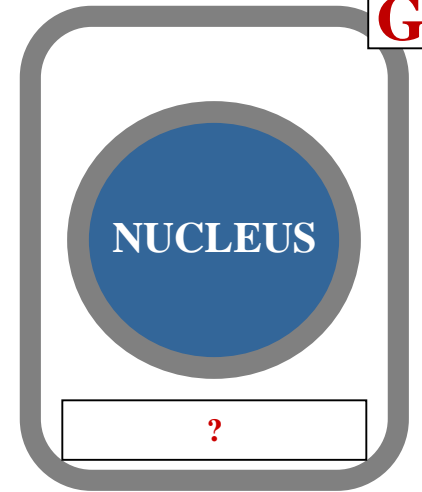
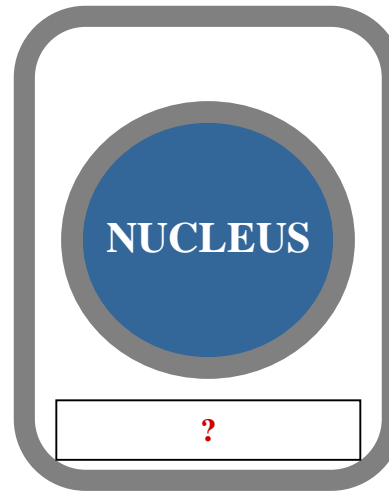
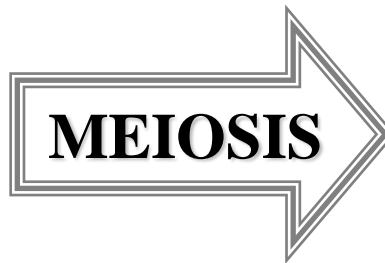




2 HOMOLOGOUS
CHROMOSOME SETS/CELL

GAMETOCYTE

GERM CELL

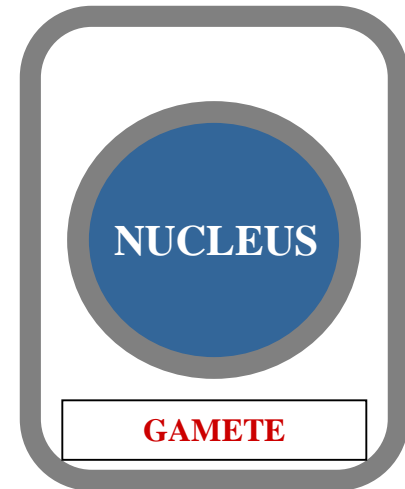
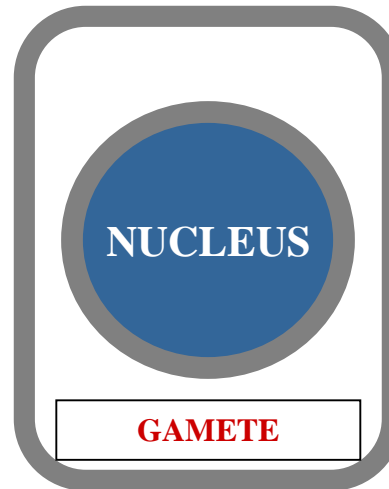
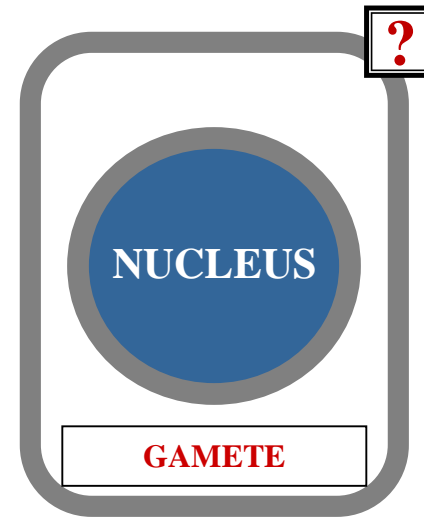
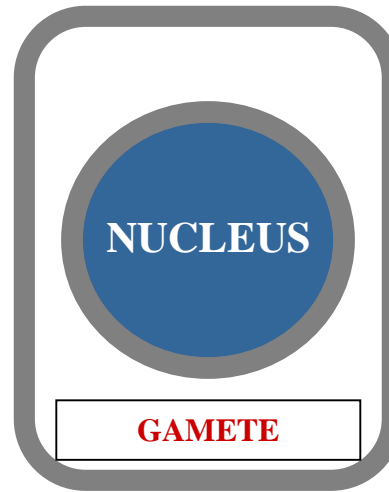
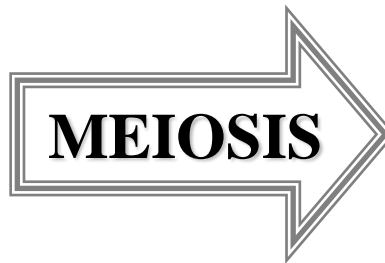




2 HOMOLOGOUS
CHROMOSOME SETS/CELL

GAMETOCYTE

GERM CELL

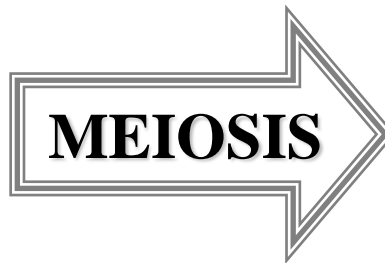
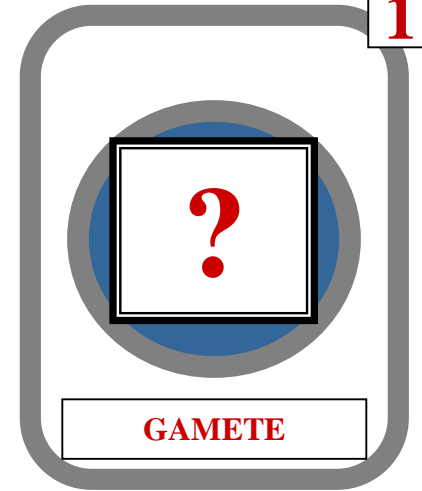
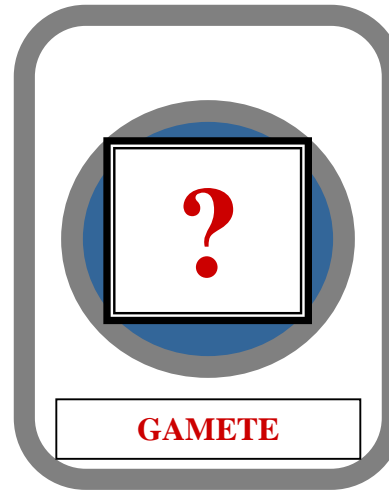




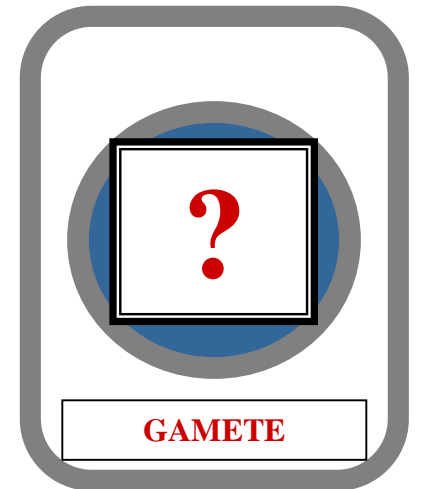
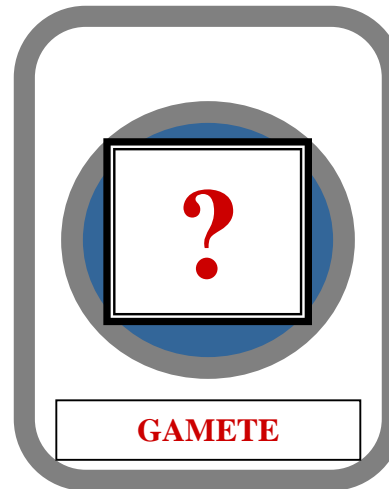
2 HOMOLOGOUS
CHROMOSOME SETS/CELL

GAMETOCYTE

GERM CELL



1/2 REDUCTION

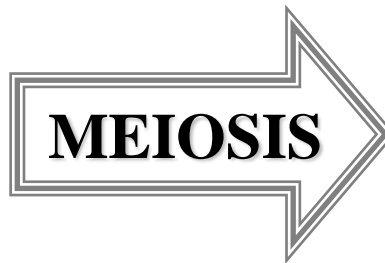




2 HOMOLOGOUS
CHROMOSOME SETS/CELL

GAMETOCYTE

GERM CELL



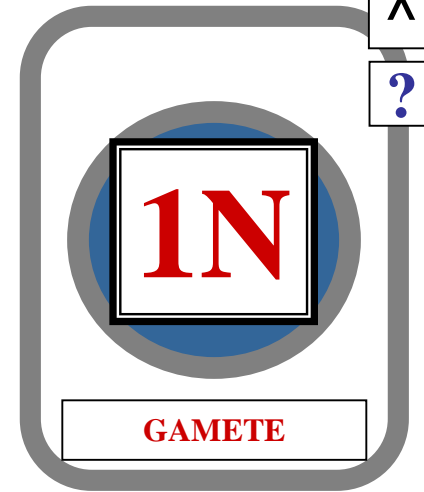
MEIOSIS

1 HOMOLOGOUS
CHROMOSOME SET/CELL



1N

GAMETE



1N

GAMETE



1N

GAMETE



1N

GAMETE

QUESTION

DURING MEIOSIS
DOES CHROMOSOME
REDUCTION OCCUR?

QUESTION

ANSWER

YES

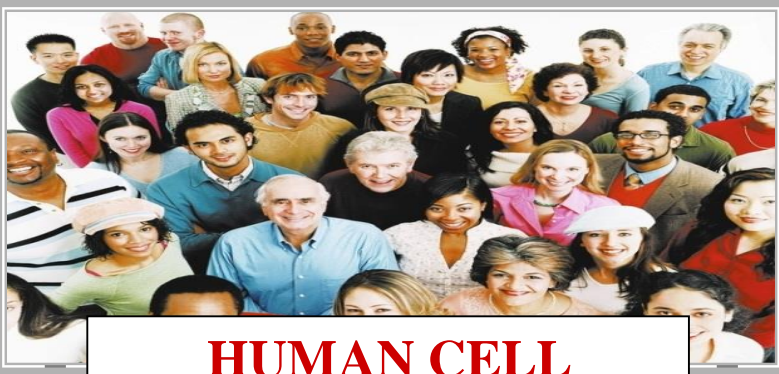
ANSWER

ANSWER



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

ANSWER



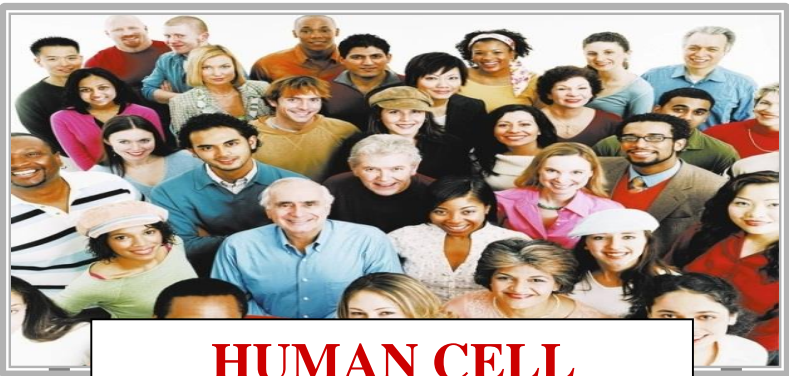
HUMAN CELL

46

**2 HOMOLOGOUS
CHROMOSOME SETS/CELL**

GAMETOCYTE

GERM CELL



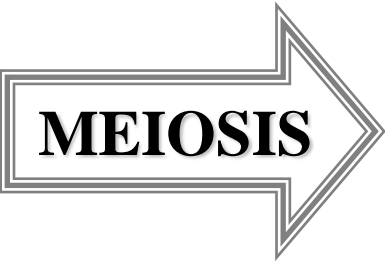
HUMAN CELL



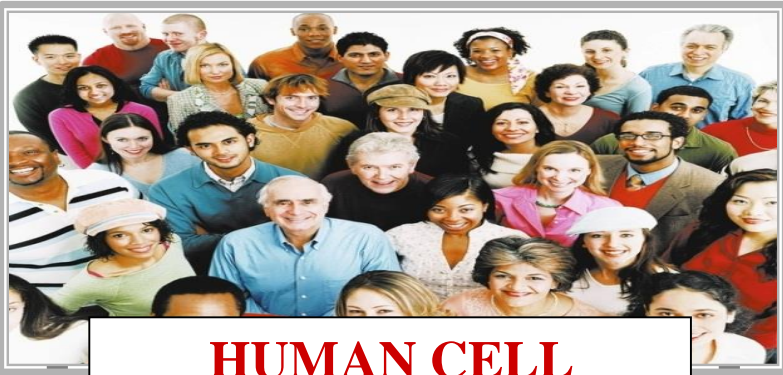
**2 HOMOLOGOUS
CHROMOSOME SETS/CELL**

GAMETOCYTE

GERM CELL



1/2 REDUCTION



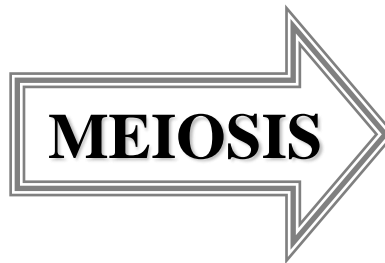
HUMAN CELL



**2 HOMOLOGOUS
CHROMOSOME SETS/CELL**

GAMETOCYTE

GERM CELL



MEIOSIS

**1 HOMOLOGOUS
CHROMOSOME SET/CELL**



23

GAMETE



23

GAMETE



23

GAMETE



23

GAMETE



MITOSIS VS MEIOSIS



TETRADS



TETRADS MITOSIS

MITOSIS VS MEIOSIS

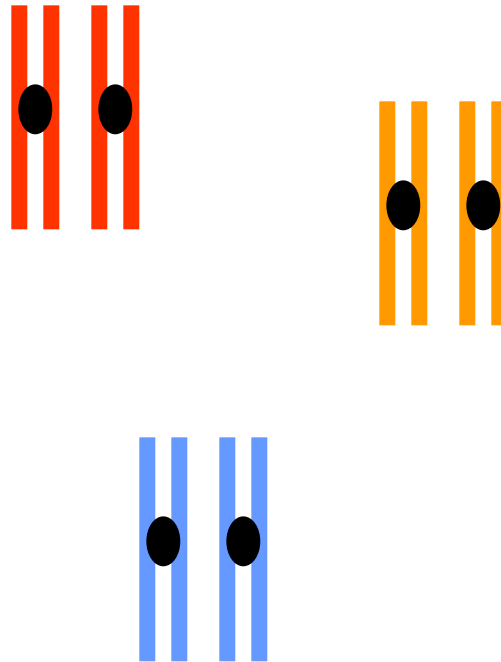
TETRADS



MITOSIS: ?

MITOSIS VS MEIOSIS

TETRADS

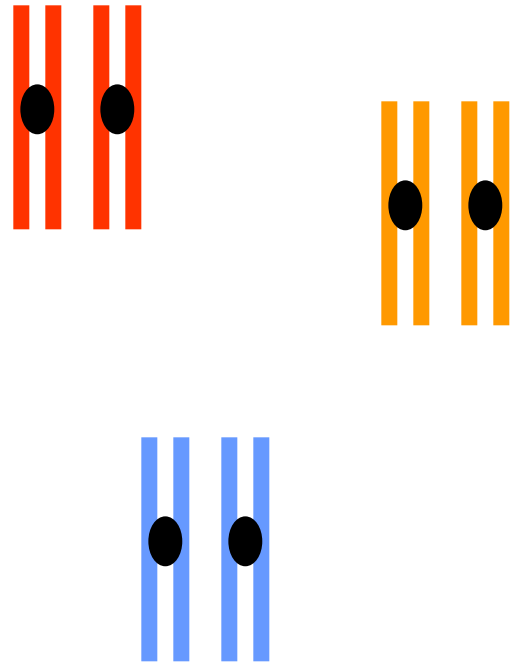


MITOSIS: TETRADS ABSENT



MITOSIS VS MEIOSIS

TETRADS



MITOSIS: X-ING OVER ABSENT



TETRADS MEIOSIS

MITOSIS VS MEIOSIS

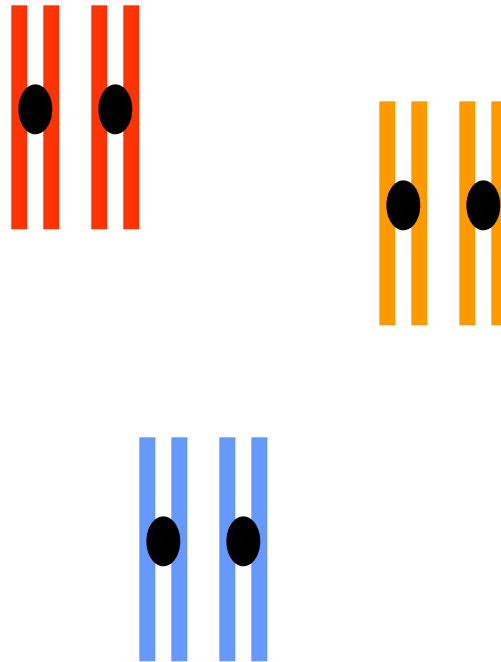
TETRAADS



MEIOSIS: ?

MITOSIS VS MEIOSIS

TETRADS

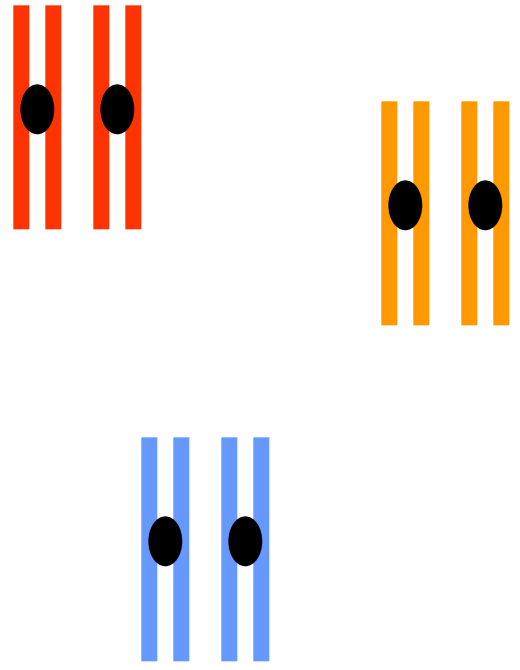


MEIOSIS: TETRADS PRESENT



MITOSIS VS MEIOSIS

TETRADS



MEIOSIS: X-ING OVER OCCURS



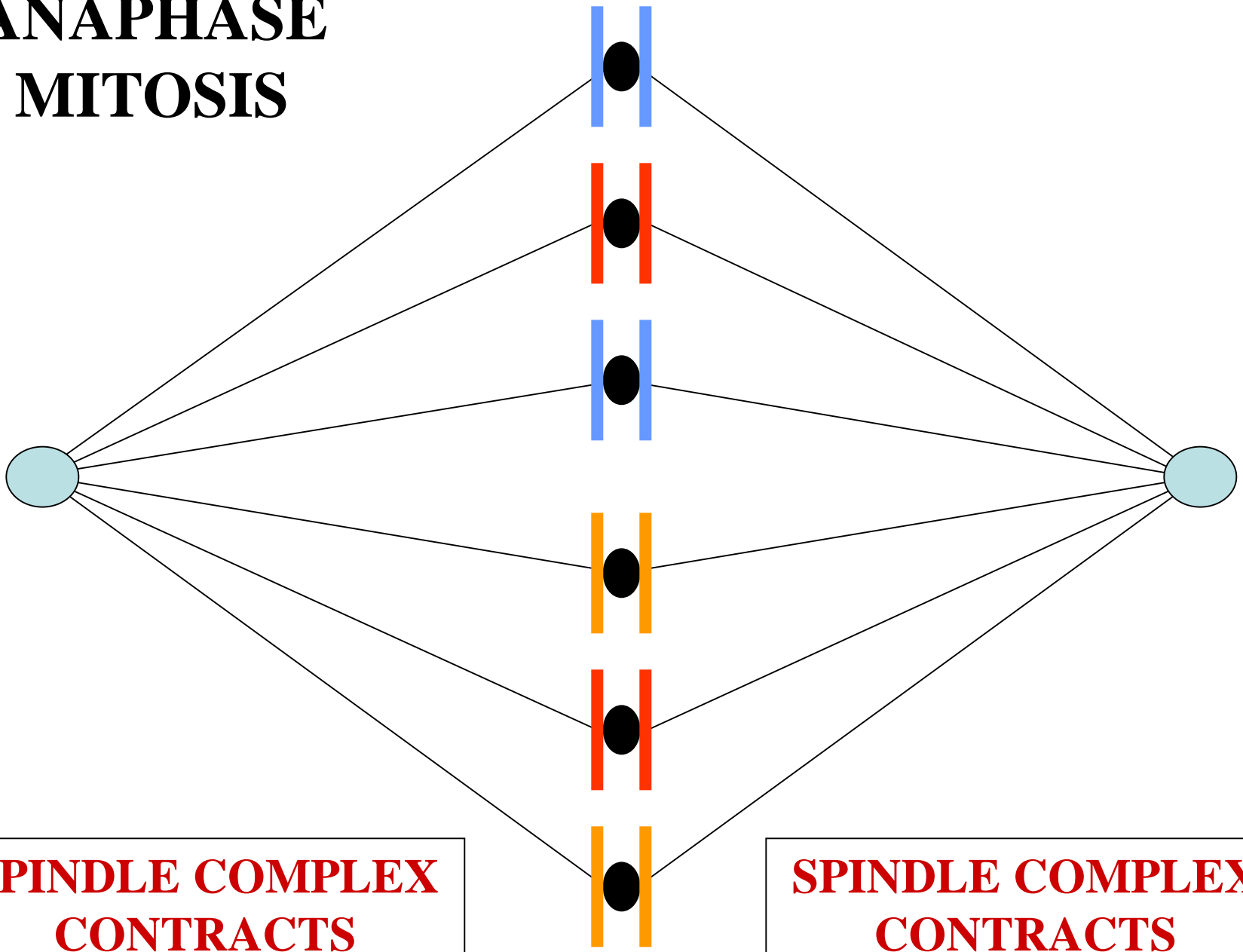
ANAPHASE



ANAPHASE

MITOSIS

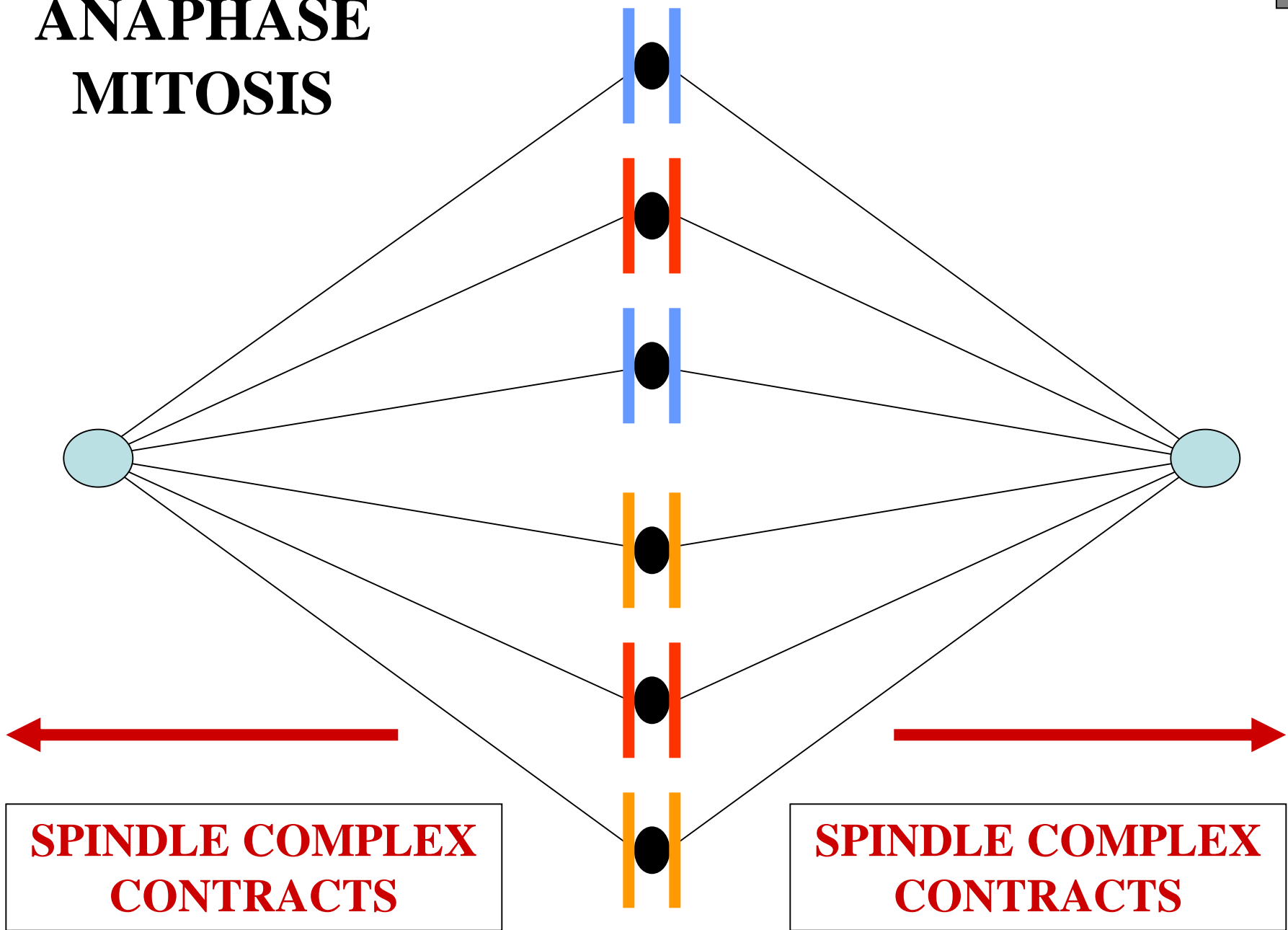
ANAPHASE MITOSIS



**SPINDLE COMPLEX
CONTRACTS**

**SPINDLE COMPLEX
CONTRACTS**

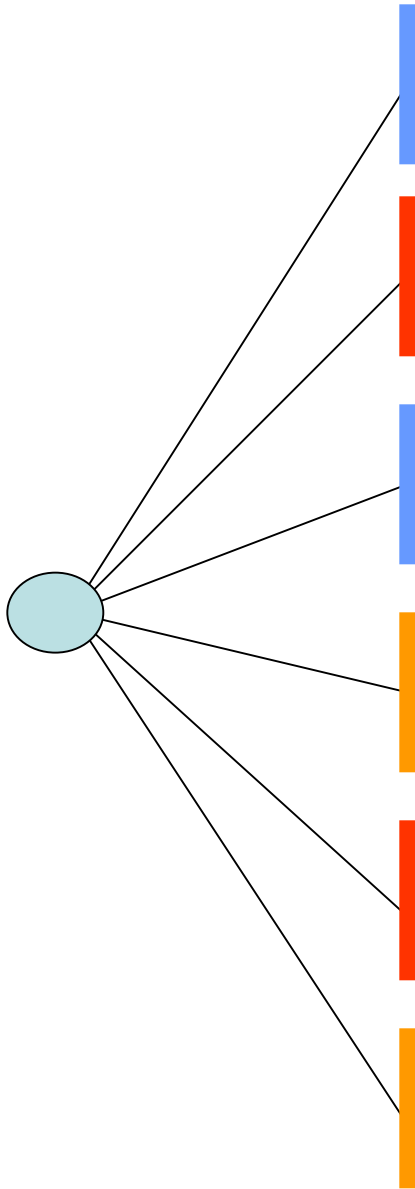
ANAPHASE MITOSIS



**SPINDLE COMPLEX
CONTRACTS**

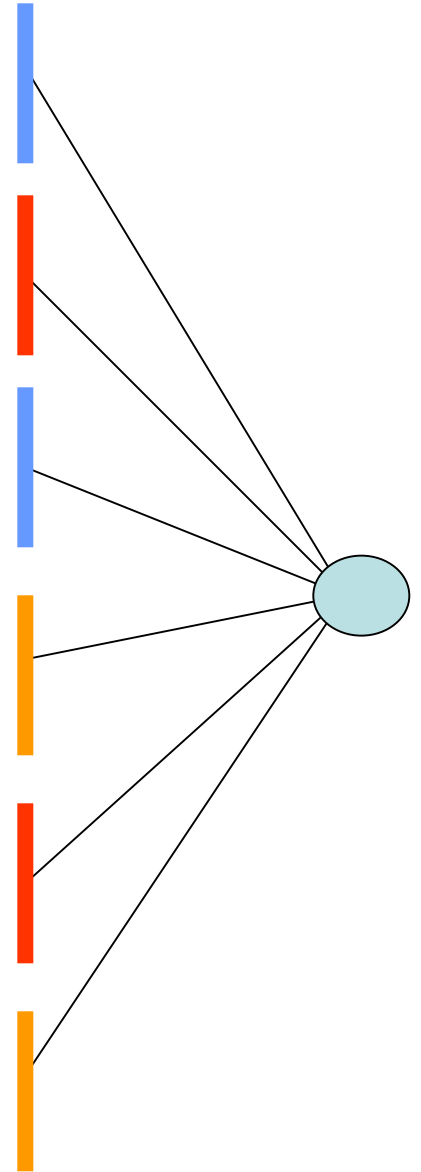
**SPINDLE COMPLEX
CONTRACTS**

ANAPHASE MITOSIS

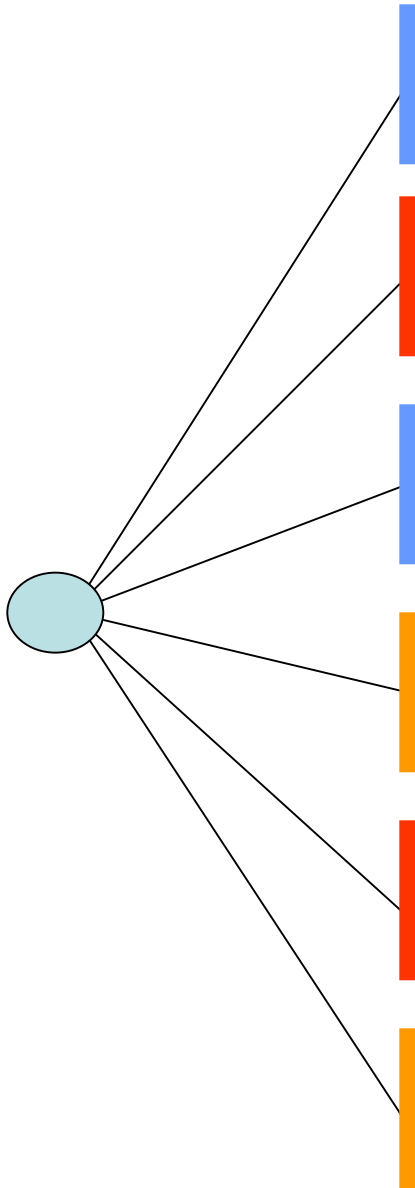


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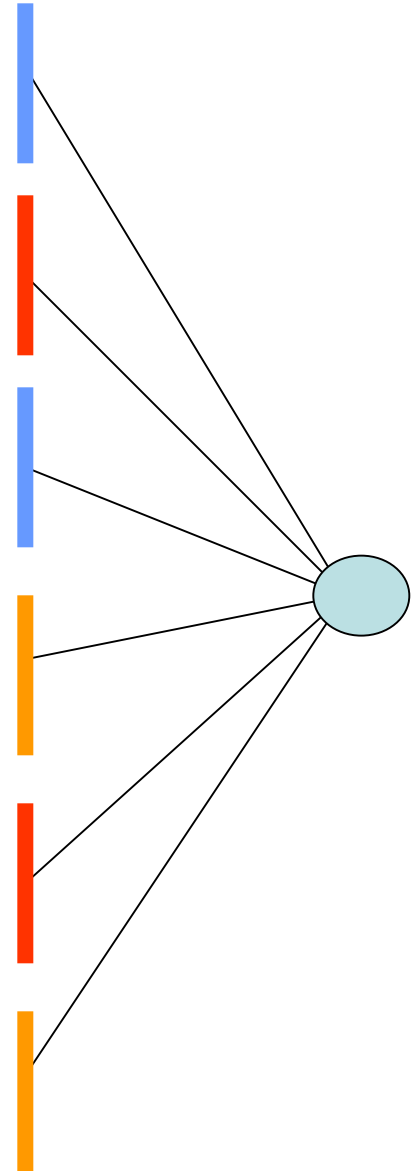
BREAK-DOWN



ANAPHASE MITOSIS



**CENTROMERES
BREAK-DOWN**



ANAPHASE MEIOSIS

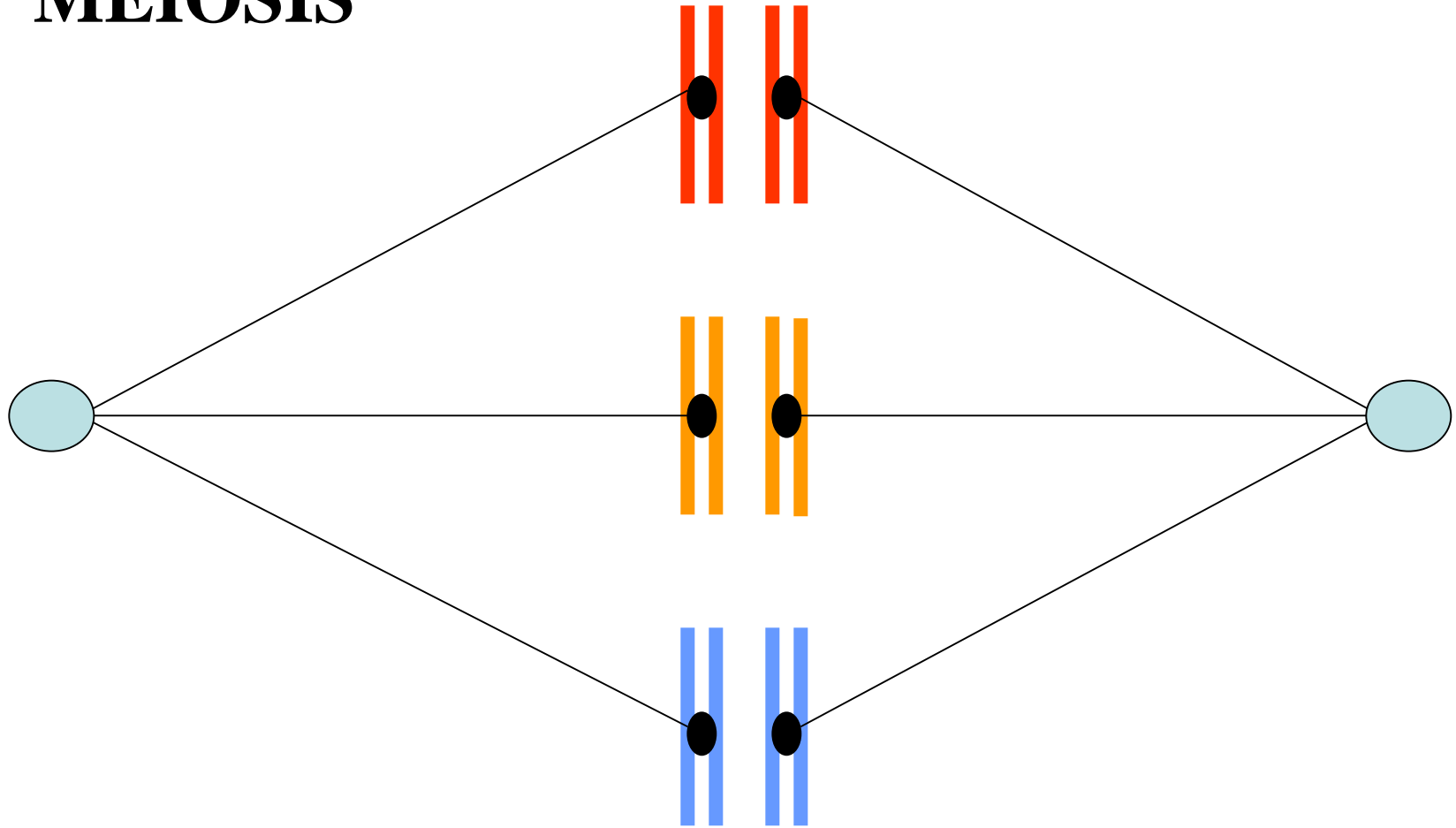


ANAPHASE-I

MEIOSIS

ANAPHASE - I

MEIOSIS

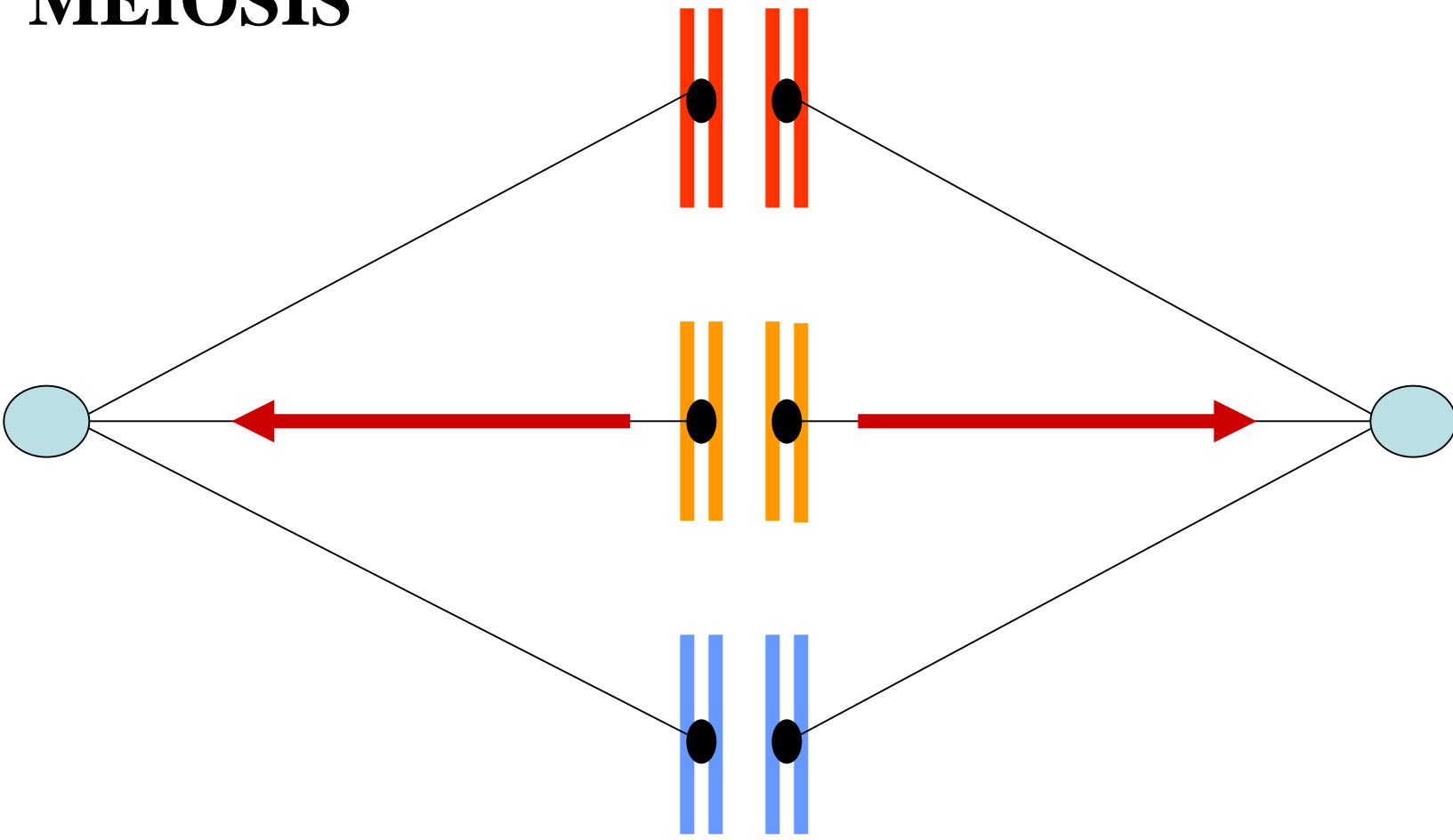


**SPINDLE COMPLEX
CONTRACTS**

**SPINDLE COMPLEX
CONTRACTS**

ANAPHASE - I

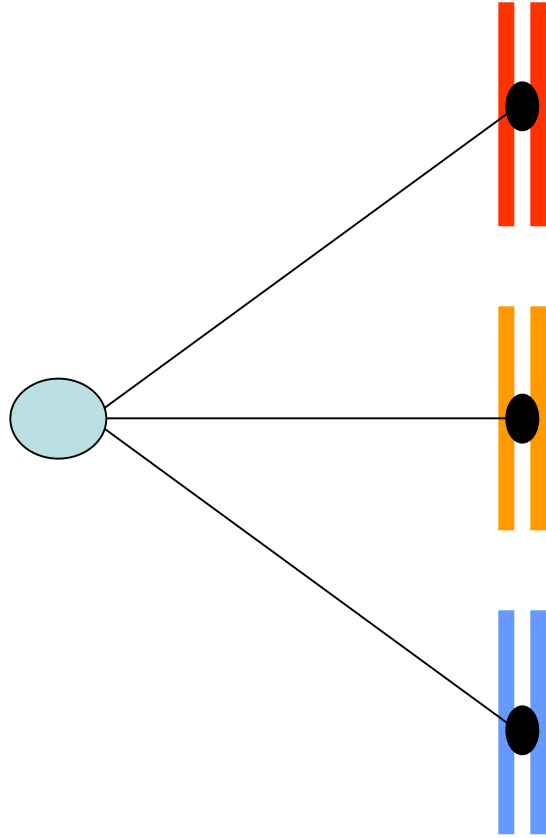
MEIOSIS



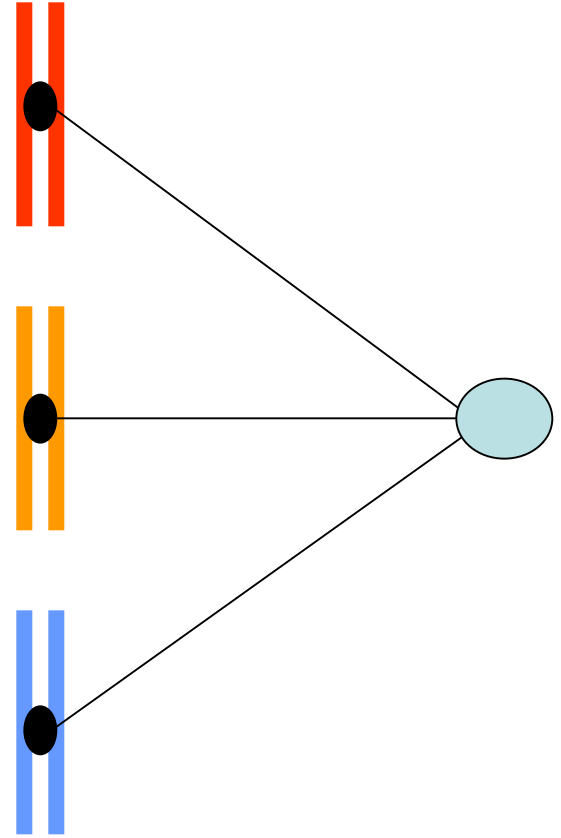
**SPINDLE COMPLEX
CONTRACTS**

**SPINDLE COMPLEX
CONTRACTS**

ANAPHASE - I MEIOSIS



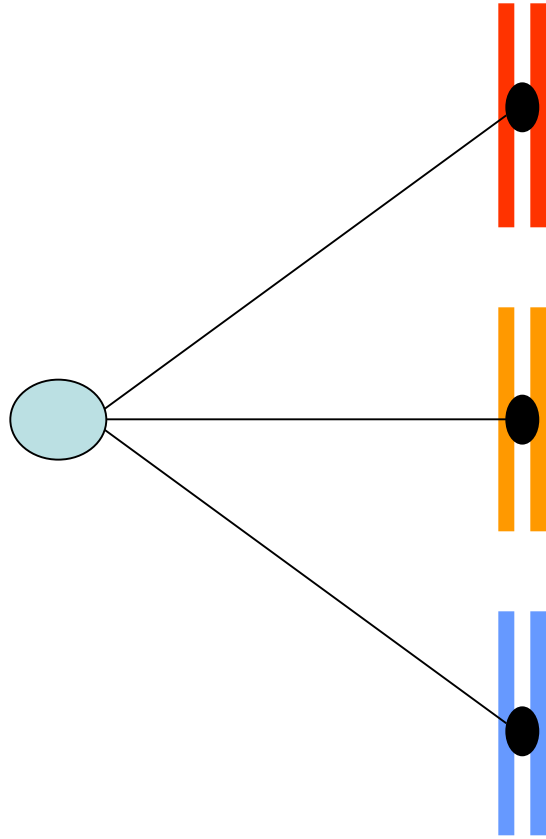
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BREAK-DOWN



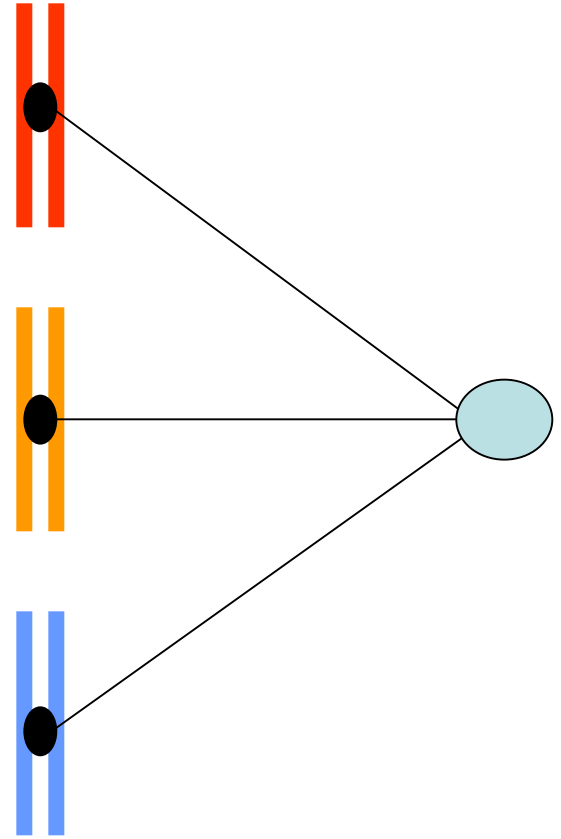
?
BREAK-DOWN

ANAPHASE - I

MEIOSIS



**TETRAD SYNAPSES
BREAK-DOWN**



**TETRAD SYNAPSES
BREAK-DOWN**

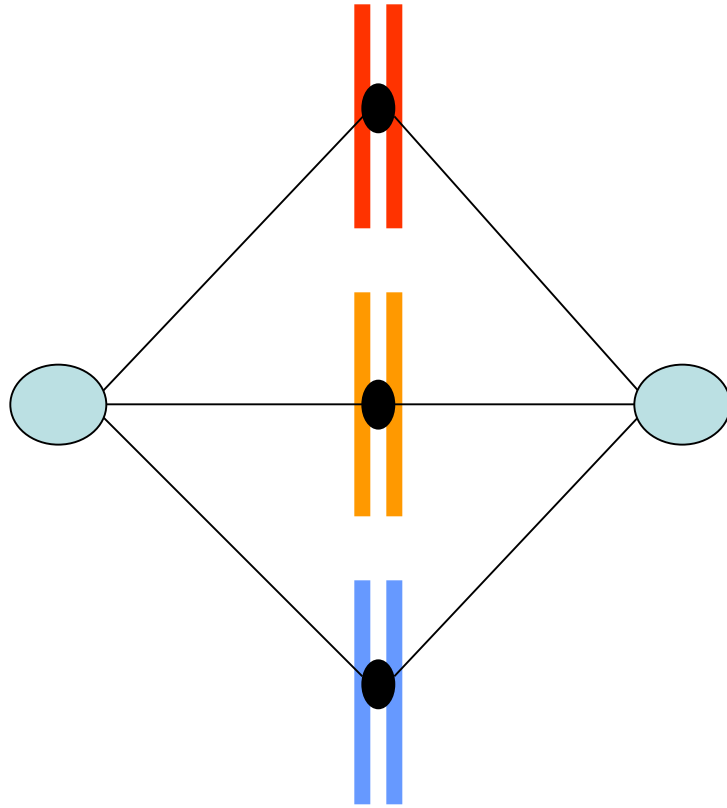


ANAPHASE-II

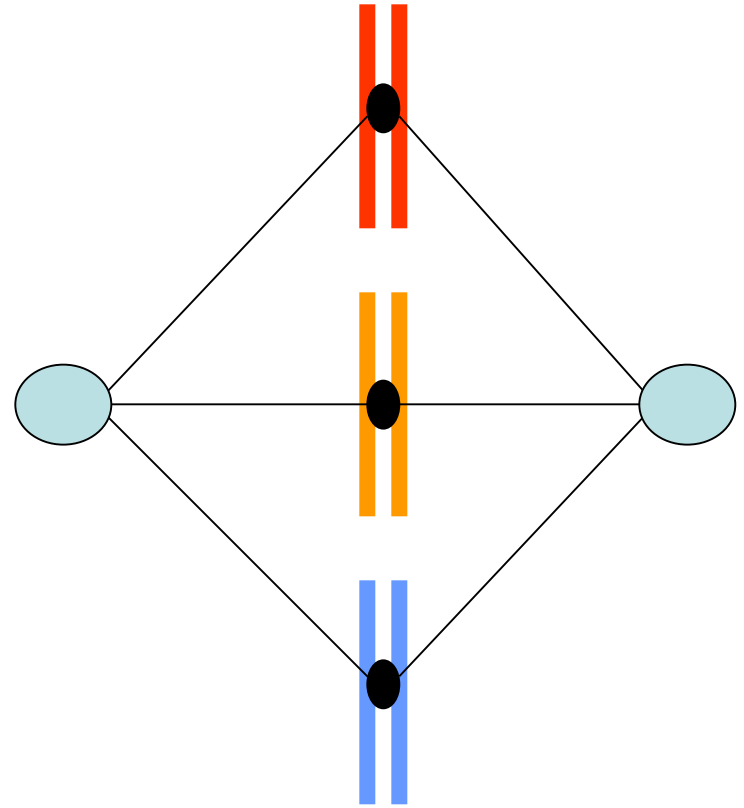
MEIOSIS

ANAPHASE - II

MEIOSIS



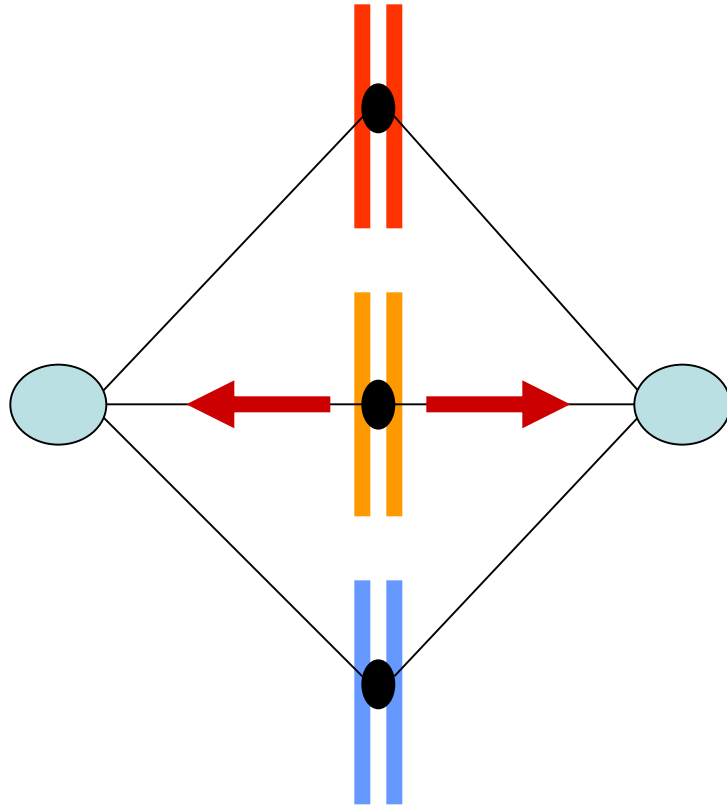
**SPINDLE COMPLEX
CONTRACTS**



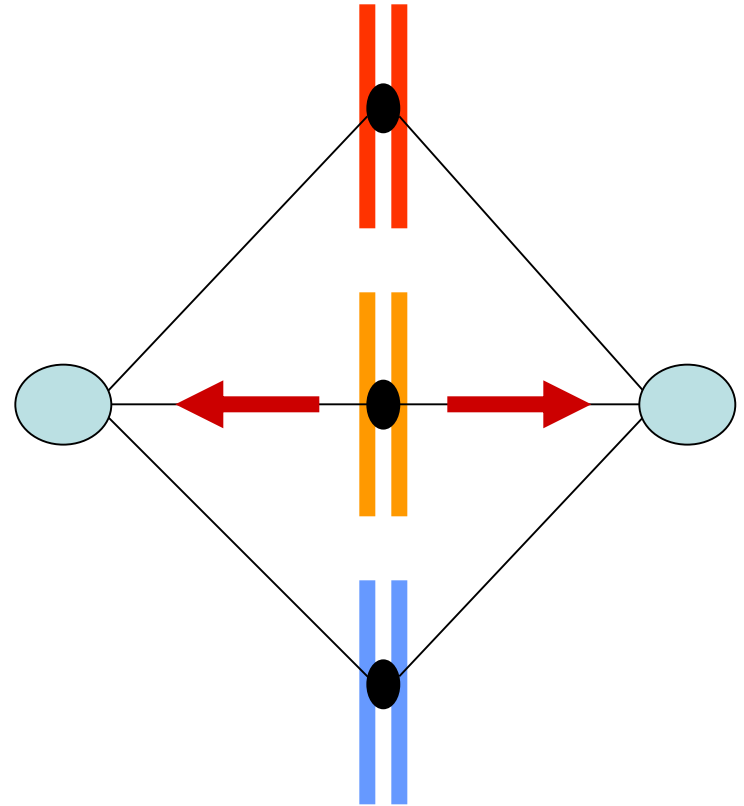
**SPINDLE COMPLEX
CONTRACTS**

ANAPHASE - II

MEIOSIS



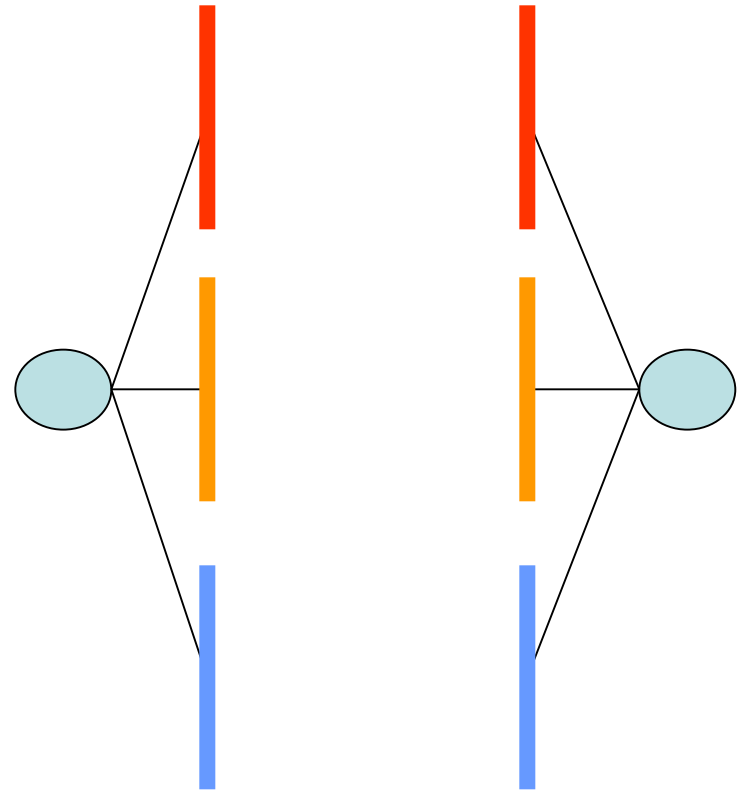
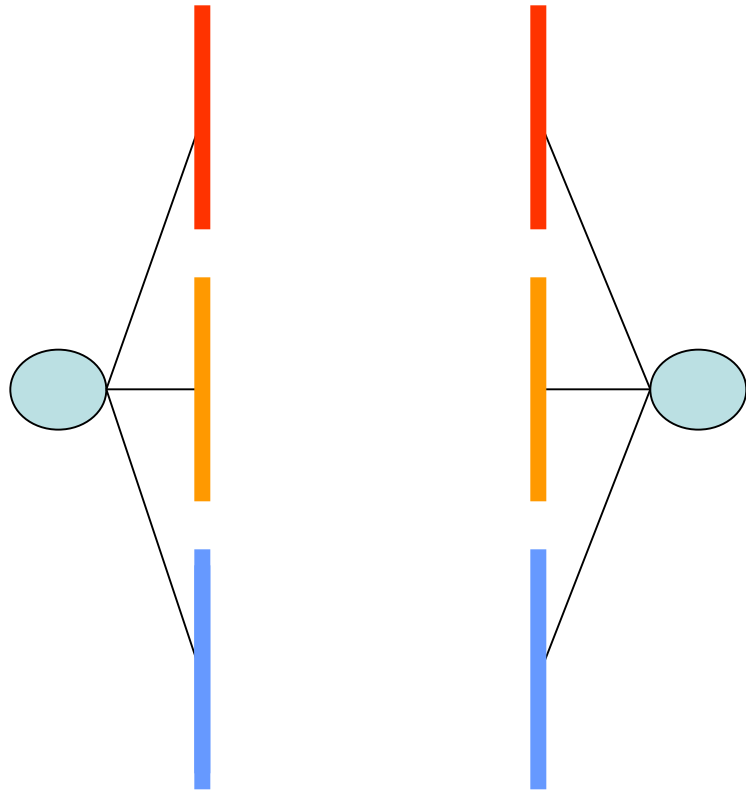
**SPINDLE COMPLEX
CONTRACTS**



**SPINDLE COMPLEX
CONTRACTS**

ANAPHASE - II

MEIOSIS



?

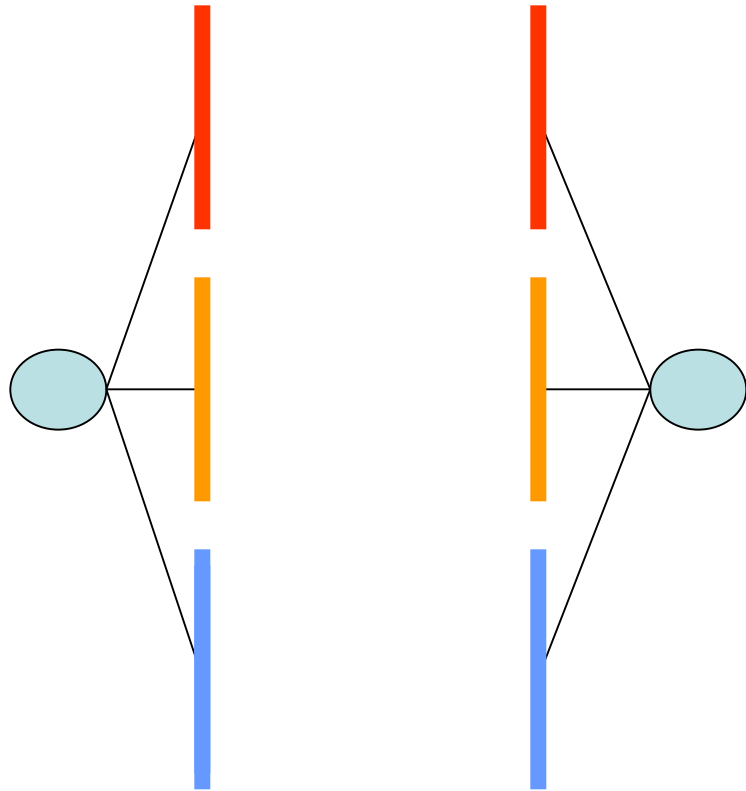
BREAK-DOWN

?

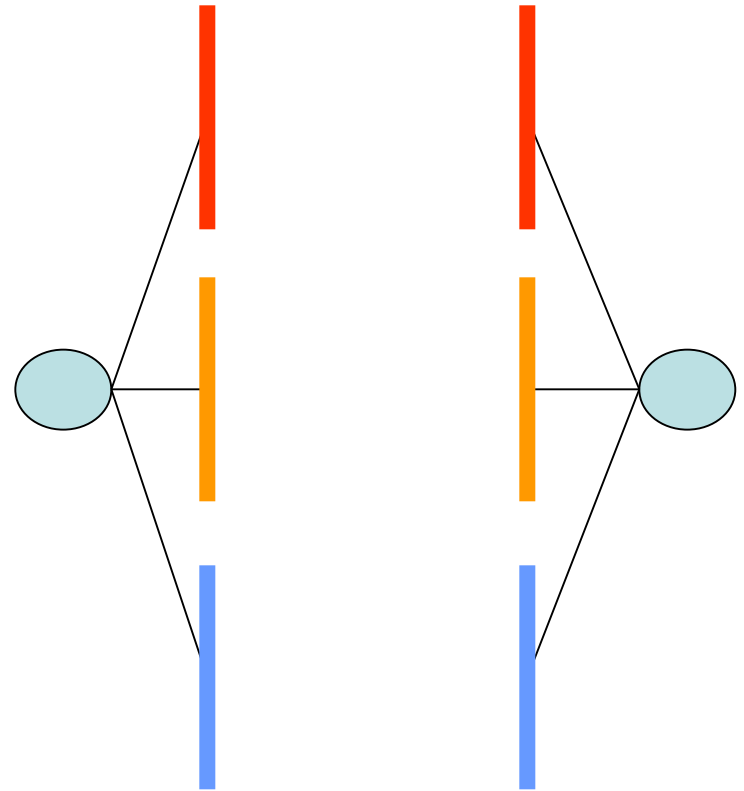
BREAK-DOWN

ANAPHASE - II

MEIOSIS



**CENTROMERES
BREAK-DOWN**



**CENTROMERES
BREAK-DOWN**

GENE TERMS

GENE



GENE

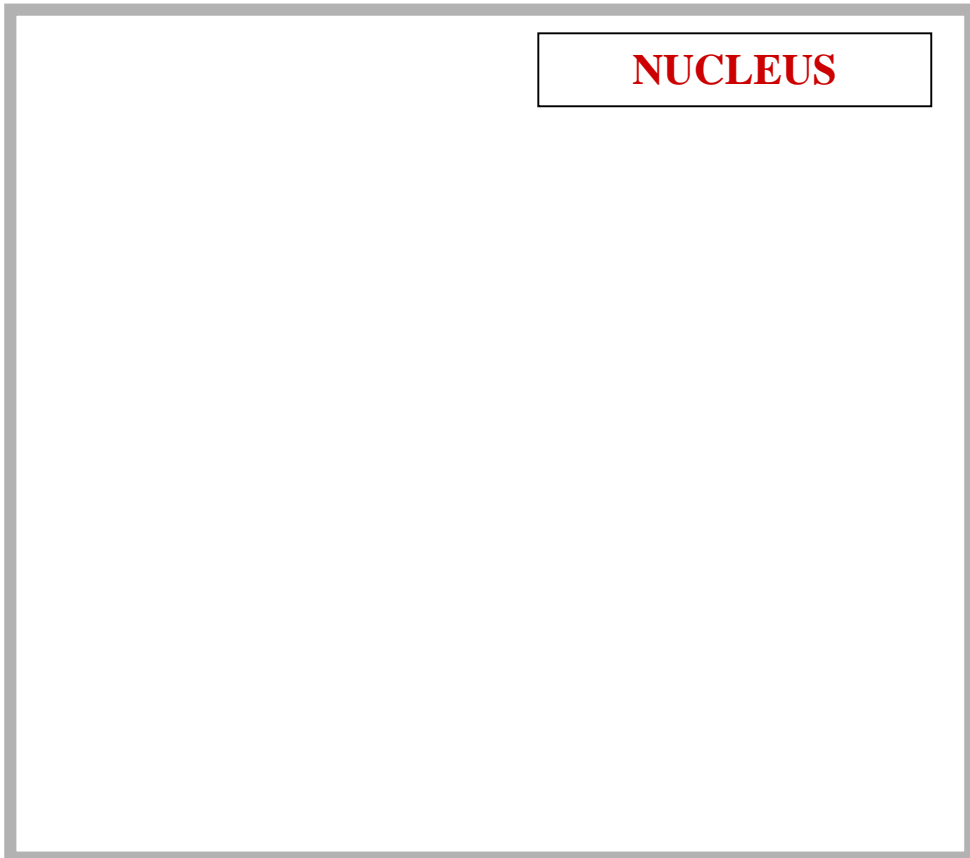
**DNA SEGMENT UPON
HOMOLOGOUS
CHROMOSOMES**

GENE



HOMOLOGOUS CHROMOSOMES

CELL



NUCLEUS

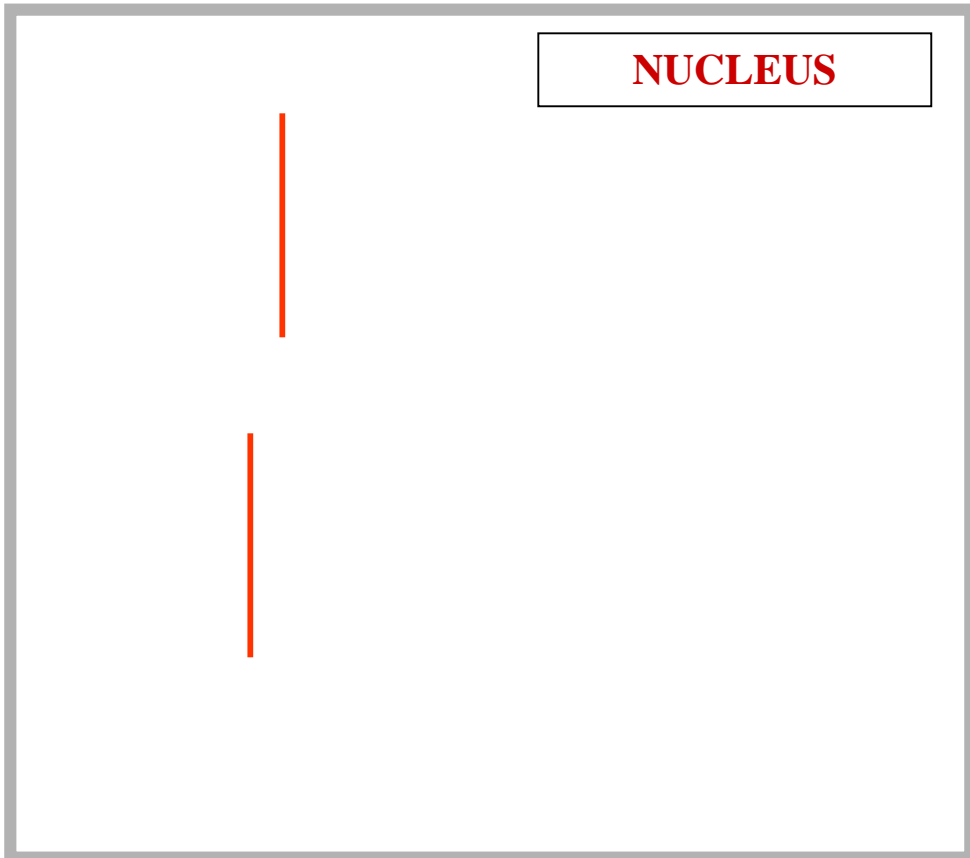
CYTOSOL

CYTOSOL

HOMOLOGOUS CHROMOSOMES

HOMOLOGOUS CHROMOSOMES

CELL



NUCLEUS

CYTOSOL

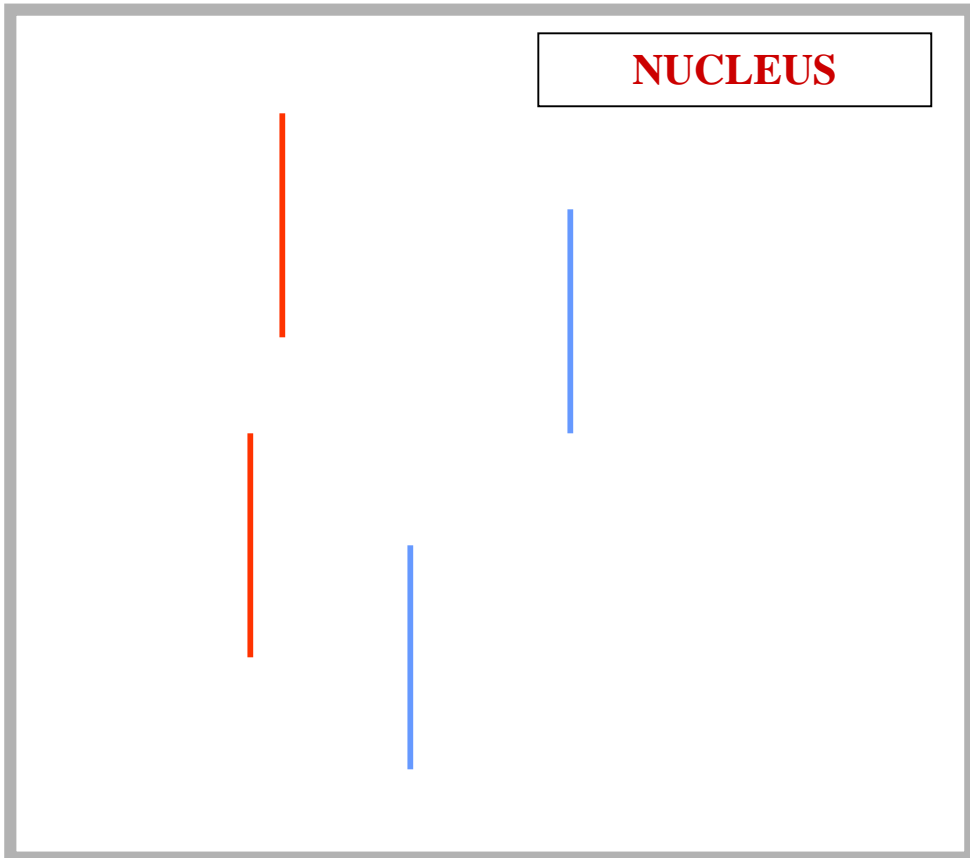
CYTOSOL

HOMOLOGOUS CHROMOSOMES



HOMOLOGOUS CHROMOSOMES

CELL



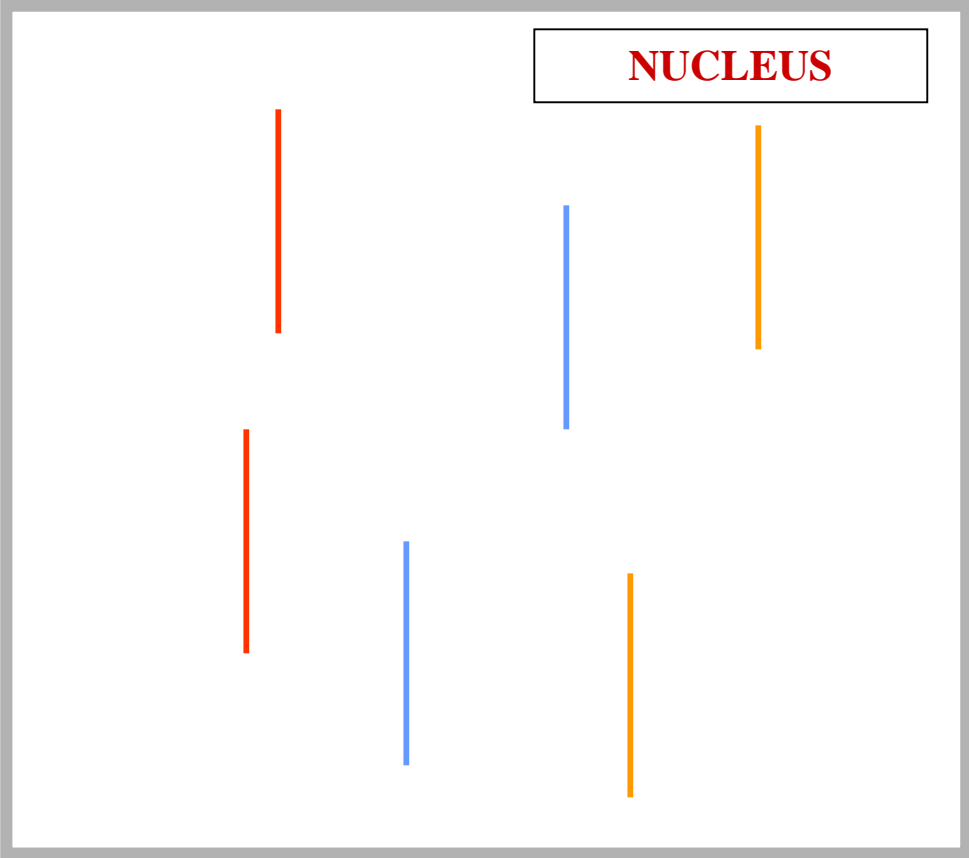
CYTOSOL

CYTOSOL

HOMOLOGOUS CHROMOSOMES

HOMOLOGOUS CHROMOSOMES

CELL



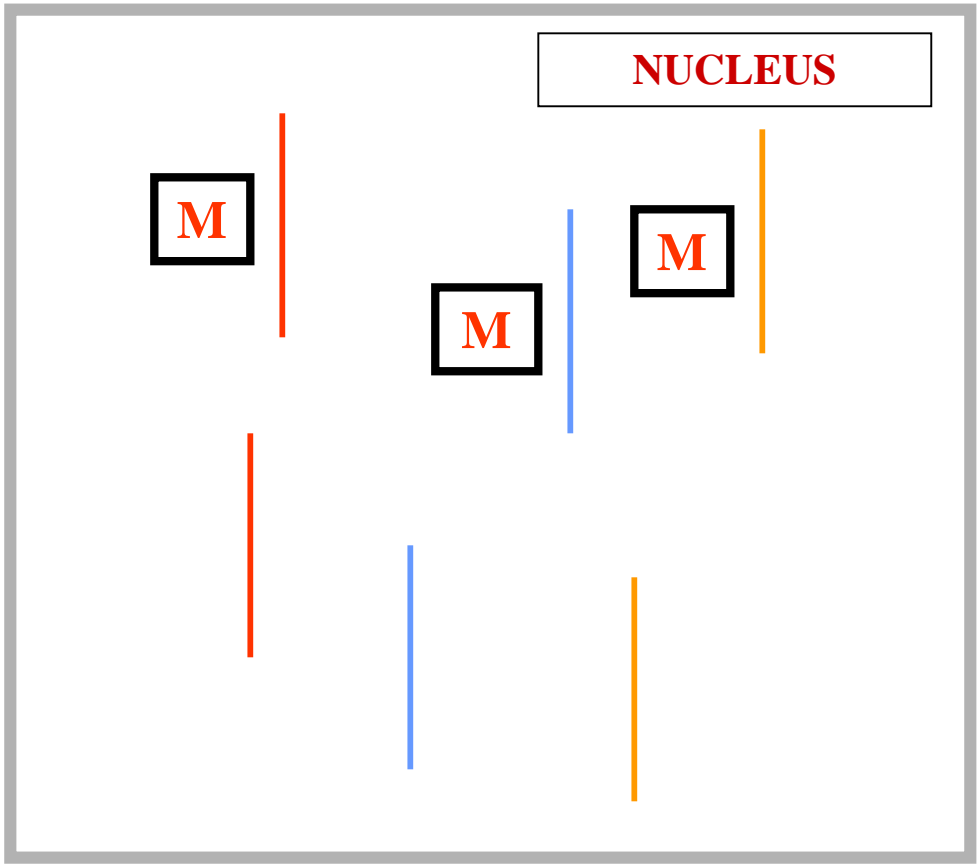
CYTOSOL

CYTOSOL

HOMOLOGOUS CHROMOSOMES

HOMOLOGOUS CHROMOSOMES

CELL



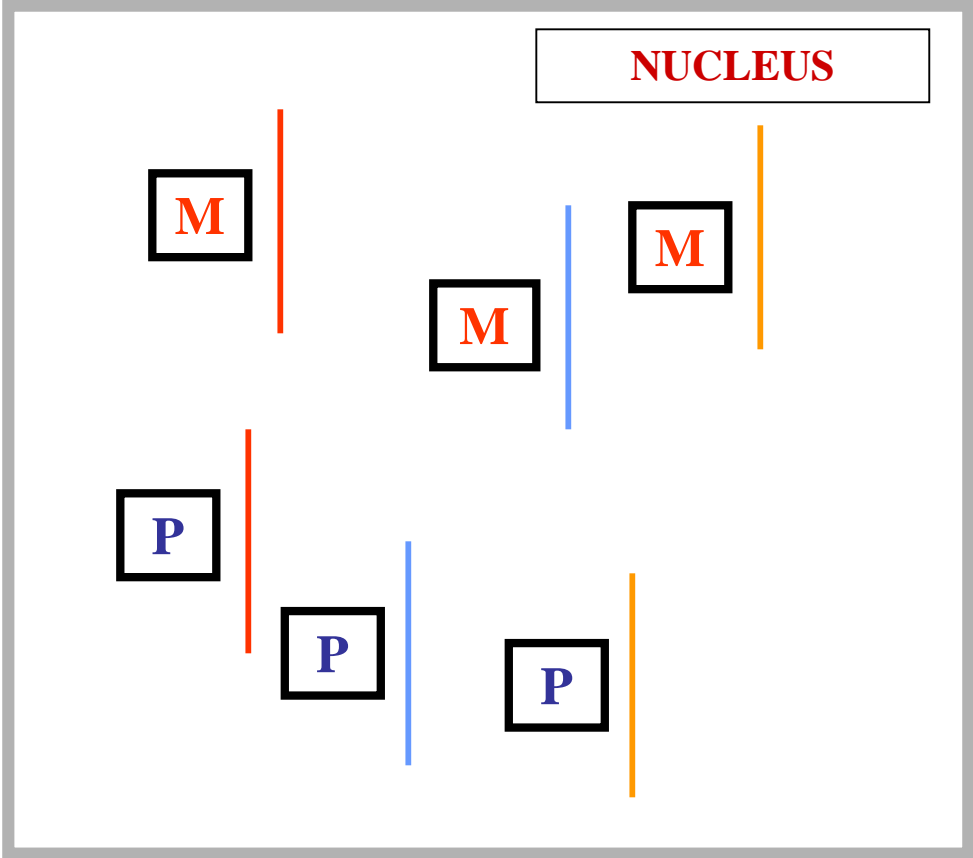
CYTOSOL

CYTOSOL

M = MATERNAL CHROMOSOME

HOMOLOGOUS CHROMOSOMES

CELL



CYTOSOL

CYTOSOL

M = **MATERNAL CHROMOSOME**

P = **PATERNAL CHROMOSOME**

P = PATERNAL

M = MATERNAL

GENE TERMS

G



M

P

**HOMOLOGOUS
CHROMOSOMES**

P = PATERNAL

M = MATERNAL

GENE TERMS

M

P

GENE
EYE COLOR

HOMOLOGOUS CHROMOSOMES



LOCI



LOCI

**GENE POSITIONS
UPON
HOMOLOGOUS
CHROMOSOMES**

LOCI



LOCI

1 LOCUS / HOMOLOG / GENE

LOCI

P = PATERNAL

M = MATERNAL

GENE TERMS

2GL



M

P

GENE
EYE COLOR

HOMOLOGOUS CHROMOSOMES

P = PATERNAL

M = MATERNAL

GENE TERMS

1GL



M

P

GENE
EYE COLOR

**TWO
GENE LOCI**

**HOMOLOGOUS
CHROMOSOMES**

P = PATERNAL

M = MATERNAL

+GL

GENE TERMS

M

P

GENE
EYE COLOR

**TWO
GENE LOCI**

**ONE LOCUS
PER HOMOLOG**

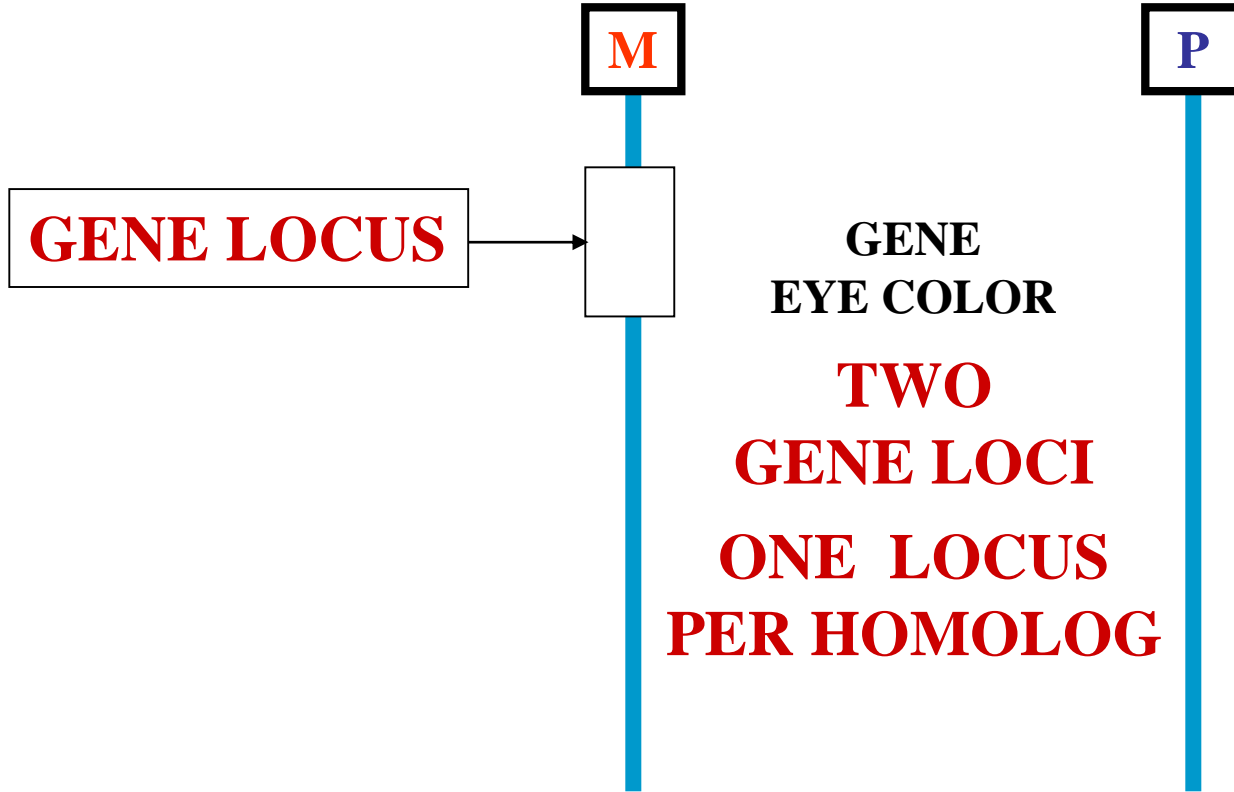
**HOMOLOGOUS
CHROMOSOMES**

P = PATERNAL

M = MATERNAL

+GL

GENE TERMS

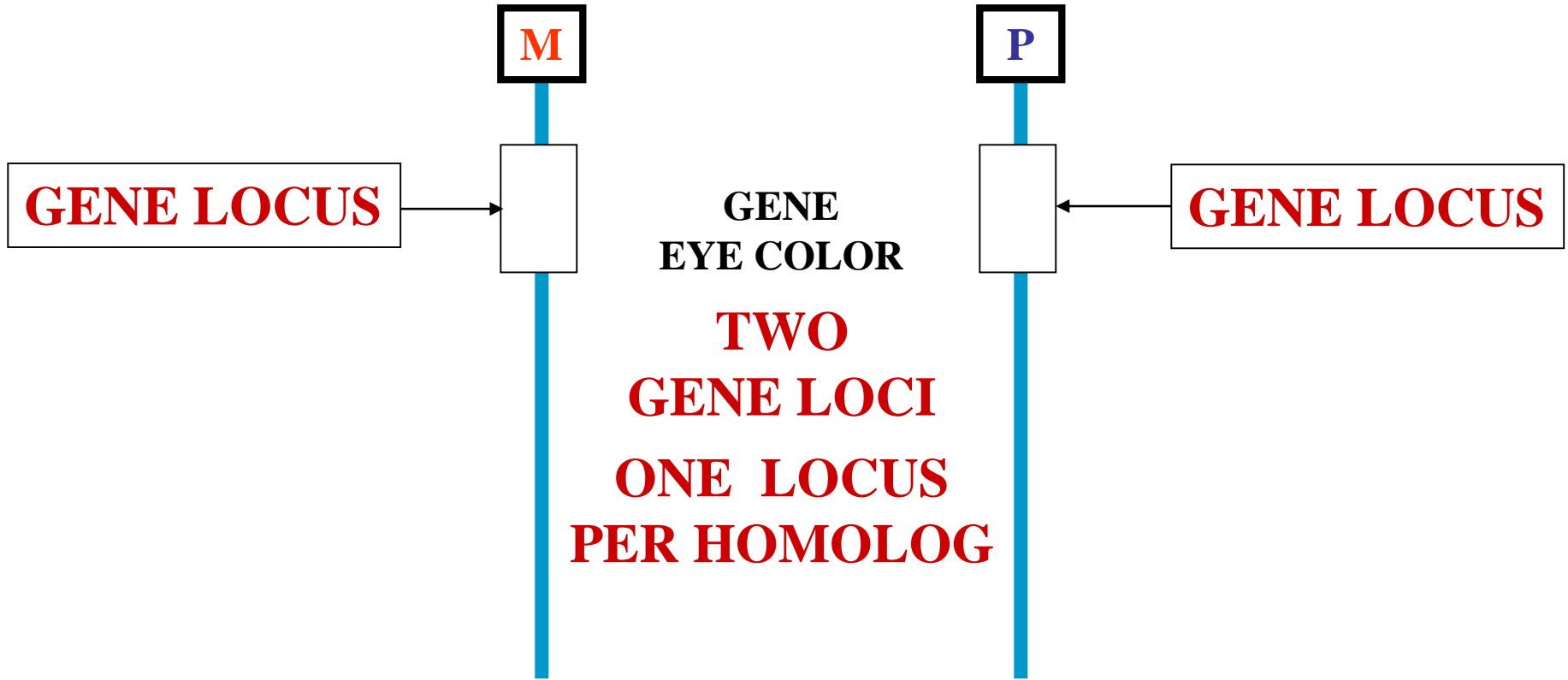


HOMOLOGOUS CHROMOSOMES

P = PATERNAL

M = MATERNAL

GENE TERMS

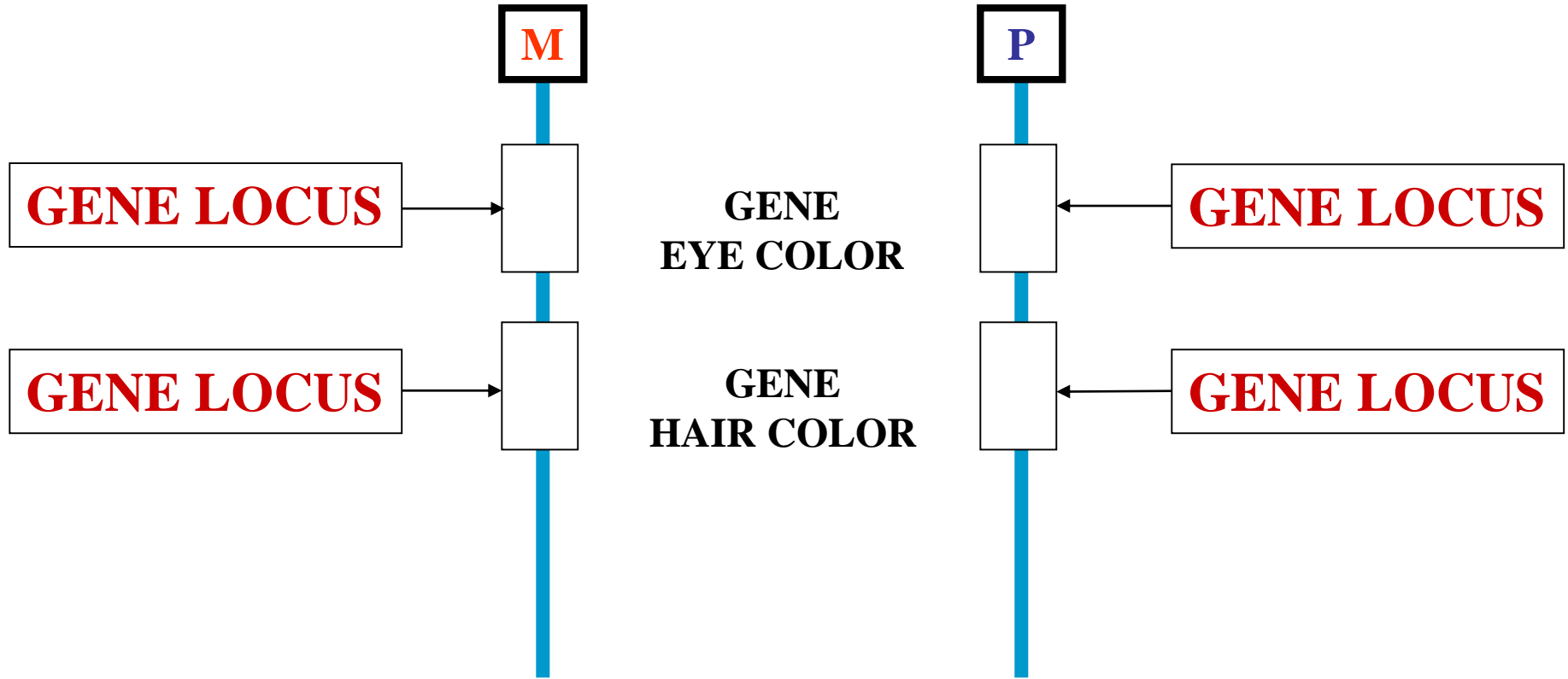


**HOMOLOGOUS
CHROMOSOMES**

P = PATERNAL

M = MATERNAL

GENE TERMS

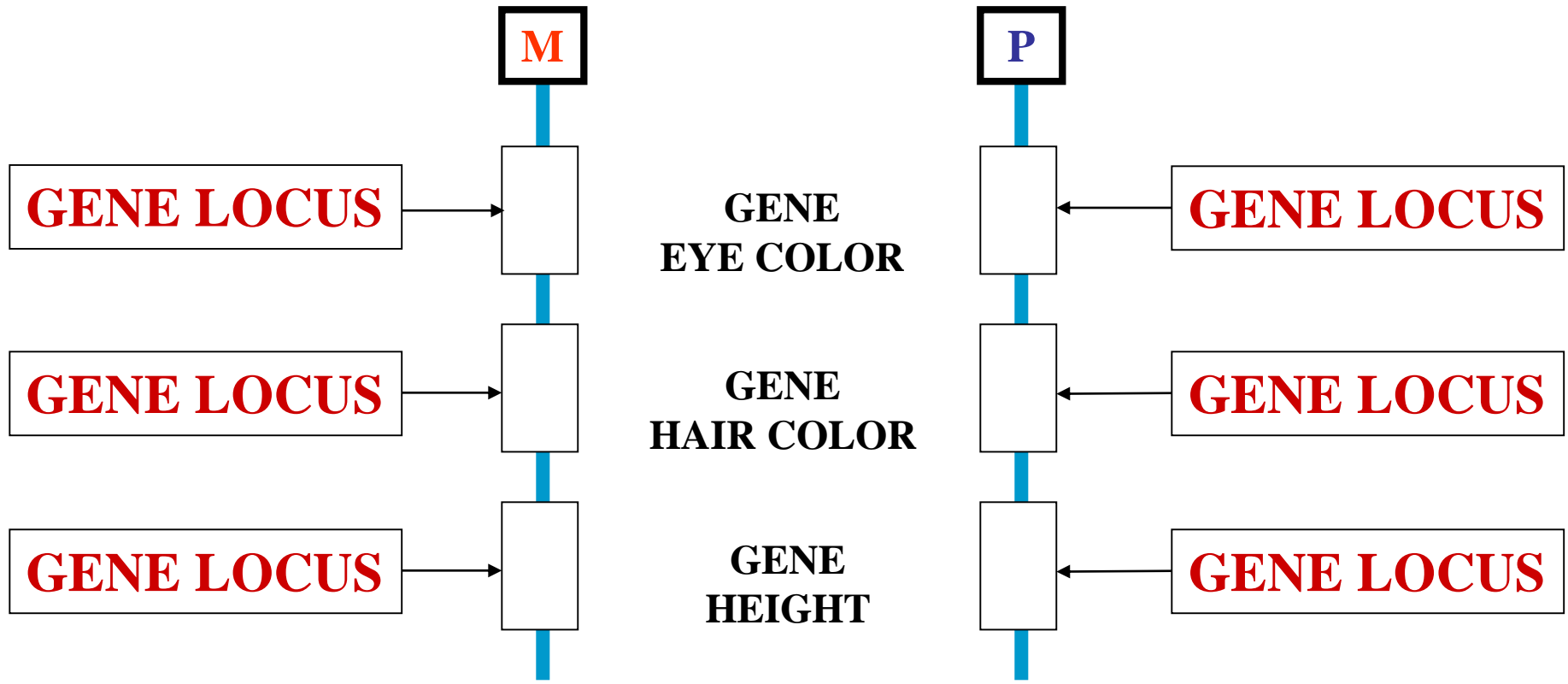


HOMOLOGOUS CHROMOSOMES

P = PATERNAL

M = MATERNAL

GENE TERMS



HOMOLOGOUS CHROMOSOMES



***GENE LOCATED
UPON BOTH
HOMOLOGOUS
CHROMOSOMES***

ALLELE

ALLELE

ALLELE

GENE FORM

ALLELE



ALLELE

EXAMPLE

GENE

EYE COLOR

GENE TERMS

**GENE
EYE COLOR**

GENE TERMS



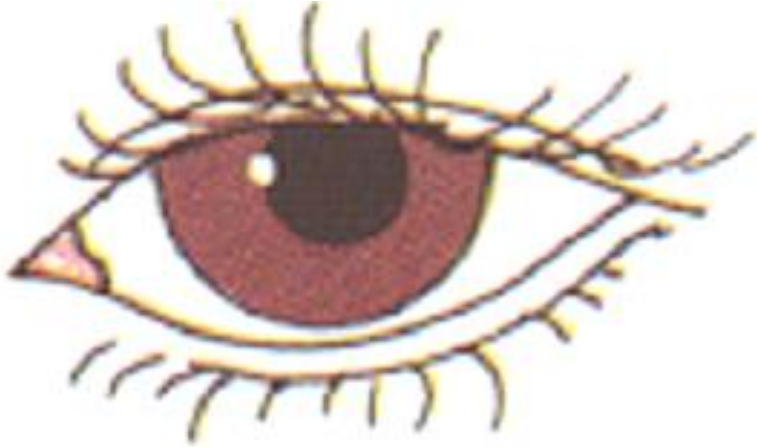
B

**GENE
EYE COLOR**

**UPPER CASE
ALLELE**



GENE TERMS

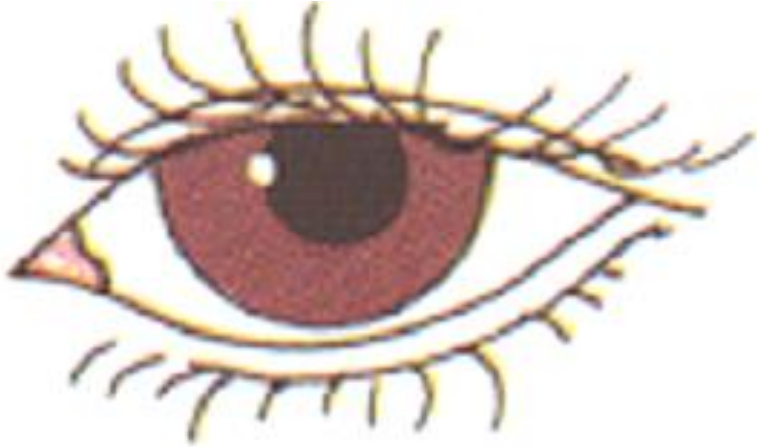


B

GENE
EYE COLOR

**DOMINATE
ALLELE**

GENE TERMS

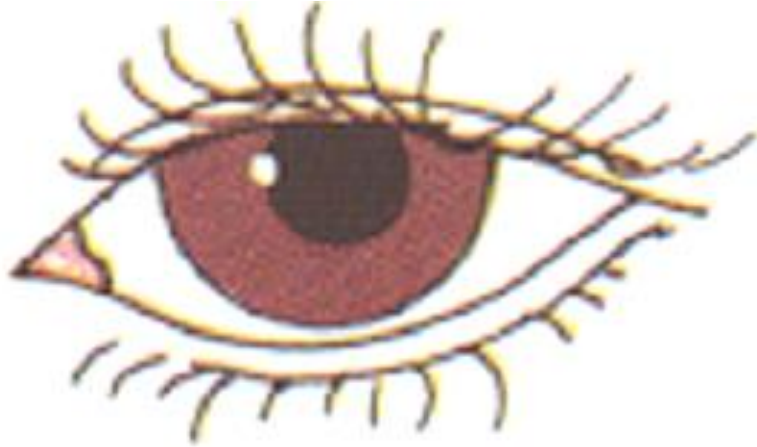


B

GENE
EYE COLOR

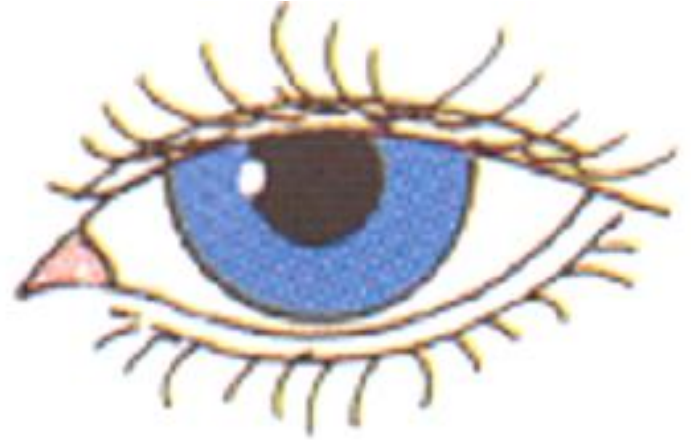
**DOMINATE
ALLELE
BROWN EYES**

GENE TERMS



B

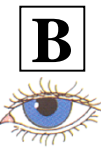
GENE
EYE COLOR



b

**DOMINATE
ALLELE
BROWN EYES**

**LOWER CASE
ALLELE**



GENE TERMS



B

GENE
EYE COLOR



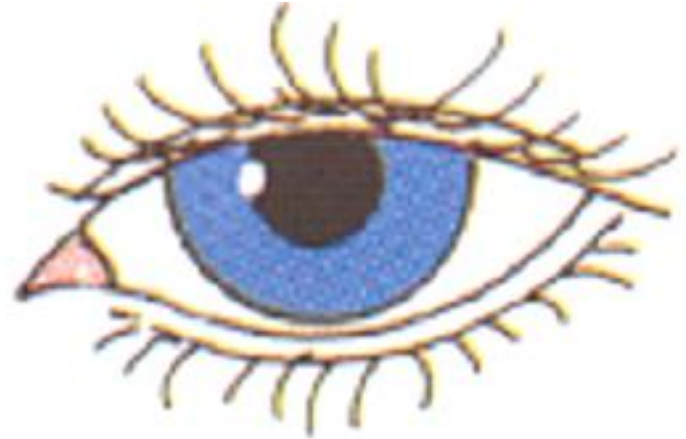
b

**DOMINATE
ALLELE
BROWN EYES**

**RECESSIVE
ALLELE**



GENE TERMS



GENE
EYE COLOR

B

b

**DOMINATE
ALLELE
BROWN EYES**

**RECESSIVE
ALLELE
BLUE EYES**

P = PATERNAL

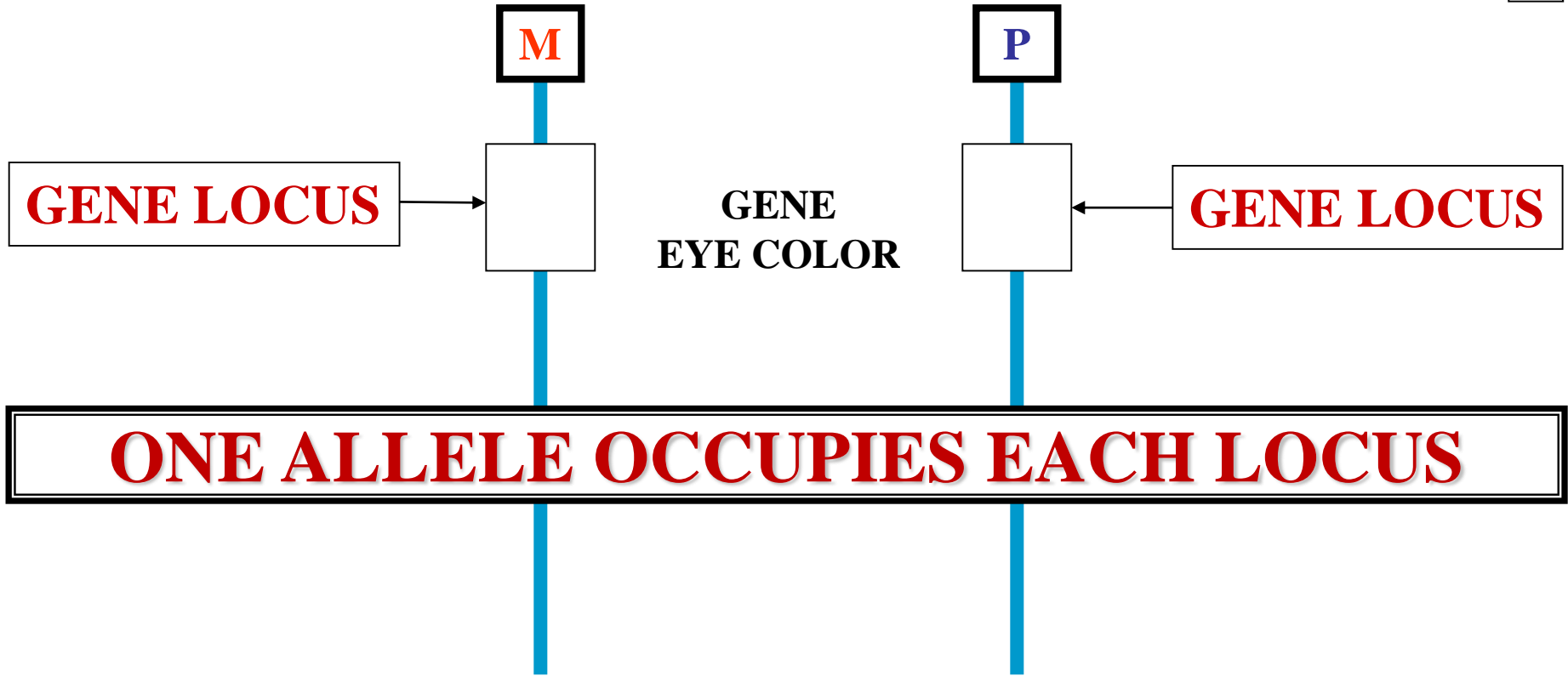
M = MATERNAL

GENE TERMS

B = DOMINATE

b = RECESSIVE

B



**HOMOLOGOUS
CHROMOSOMES**

P = PATERNAL

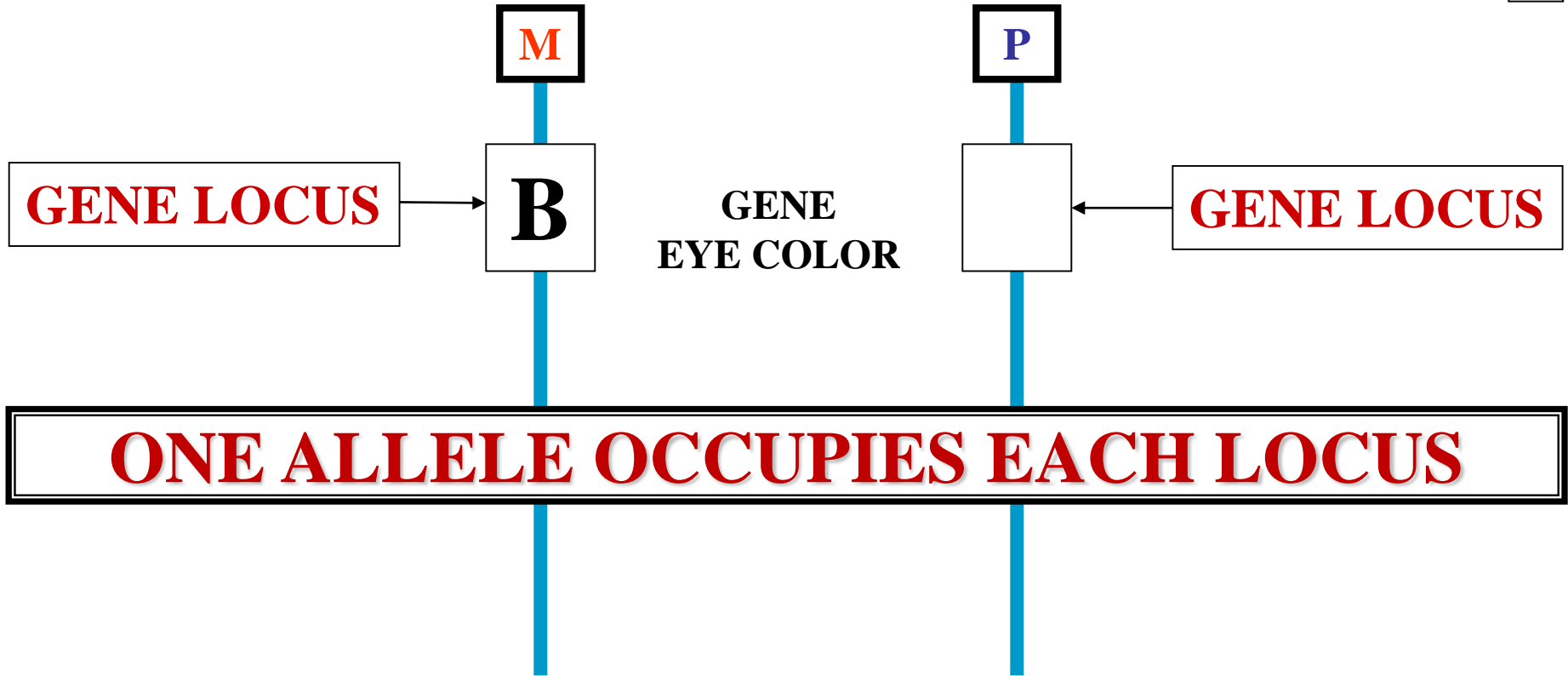
M = MATERNAL

GENE TERMS

B = DOMINATE

b = RECESSIVE

b



**HOMOLOGOUS
CHROMOSOMES**

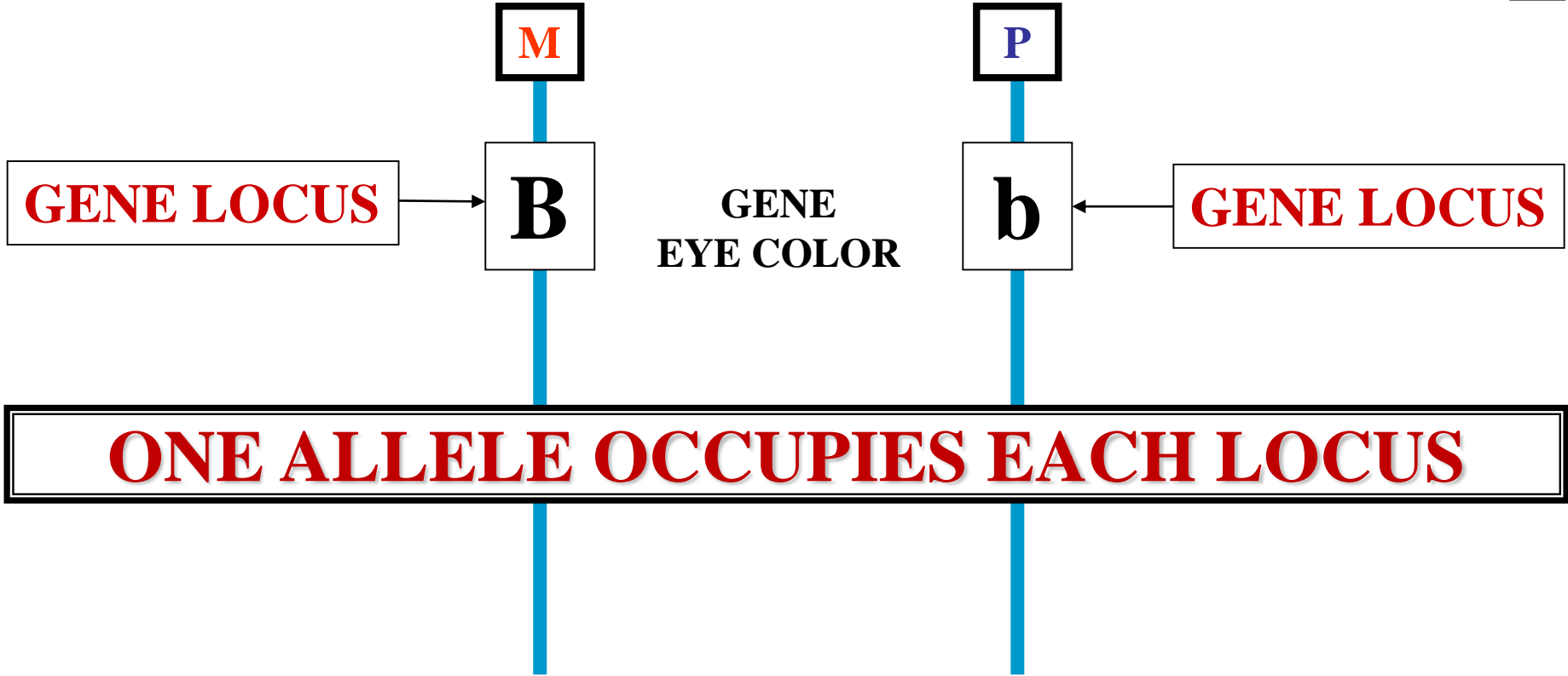
P = PATERNAL

M = MATERNAL

GENE TERMS

B = DOMINATE

b = RECESSIVE



**HOMOLOGOUS
CHROMOSOMES**



ALLELE COMBINATIONS

P = PATERNAL

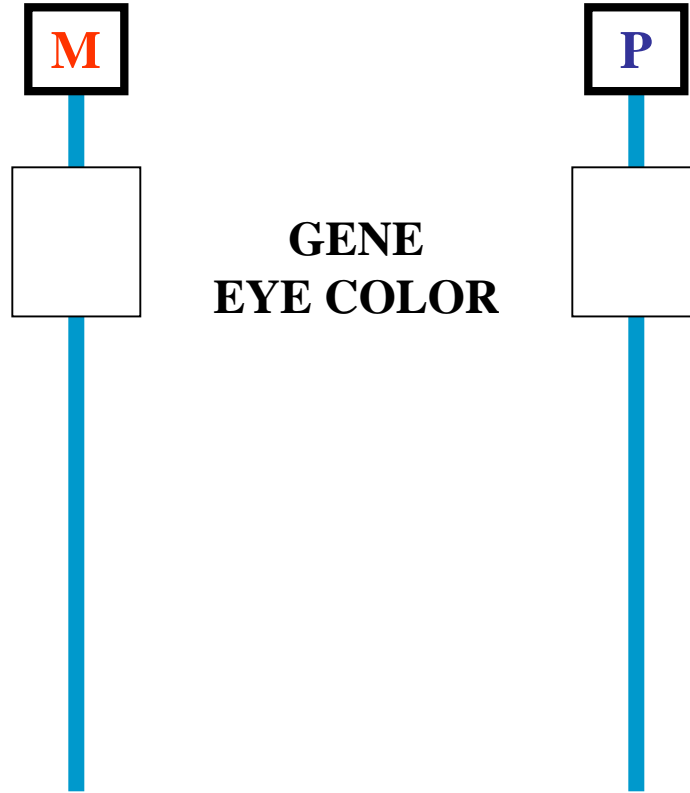
M = MATERNAL

GENE TERMS

B = DOMINATE

b = RECESSIVE

B



HOMOLOGOUS CHROMOSOMES

P = PATERNAL

M = MATERNAL

GENE TERMS

B = DOMINATE

b = RECESSIVE



M

B

GENE
EYE COLOR

P

B

**HOMOLOGOUS
CHROMOSOMES**

P = PATERNAL

M = MATERNAL

GENE TERMS

B = DOMINATE

b = RECESSIVE

b

M

B

GENE
EYE COLOR

P

B



HOMOLOGOUS CHROMOSOMES

P = PATERNAL

M = MATERNAL

GENE TERMS

B = DOMINATE

b = RECESSIVE



M

b

GENE
EYE COLOR

P

b

HOMOLOGOUS CHROMOSOMES

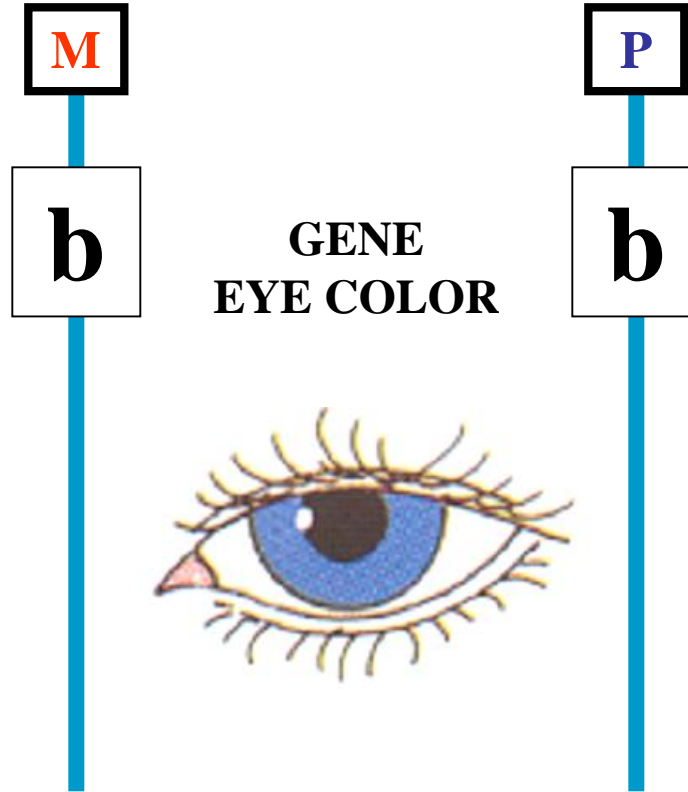
P = PATERNAL

M = MATERNAL

GENE TERMS

B = DOMINATE

b = RECESSIVE



B

HOMOLOGOUS CHROMOSOMES

P = PATERNAL

M = MATERNAL

GENE TERMS

B = DOMINATE

b = RECESSIVE

M

B

GENE
EYE COLOR

P

b



B

HOMOLOGOUS
CHROMOSOMES

P = PATERNAL

M = MATERNAL

GENE TERMS

B = DOMINATE

b = RECESSIVE



M

b

GENE
EYE COLOR

P

B

HOMOLOGOUS
CHROMOSOMES

P = PATERNAL

M = MATERNAL

GENE TERMS

B = DOMINATE

b = RECESSIVE



M

b

GENE
EYE COLOR

P

B



HOMOLOGOUS CHROMOSOMES

GENE POOL

GENE POOL



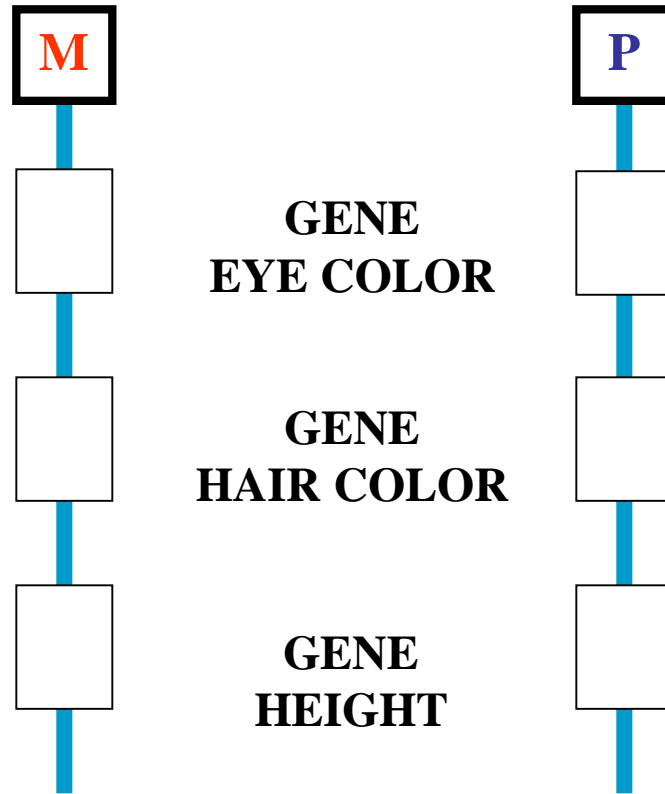
GENE POOL

**ALL POSSIBLE GENE
ALLELE COMBINATIONS**

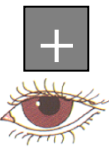
GENE POOL



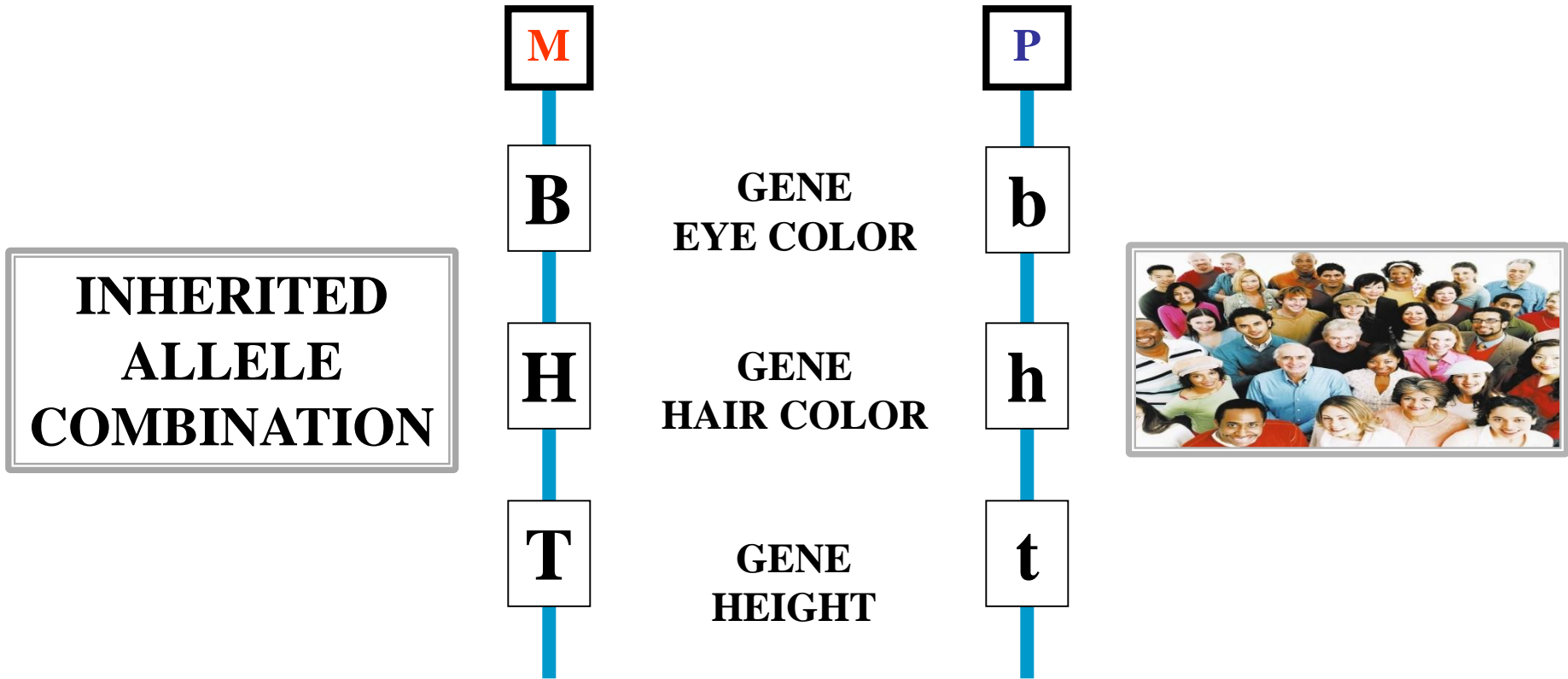
GENE POOL



HOMOLOGOUS CHROMOSOMES

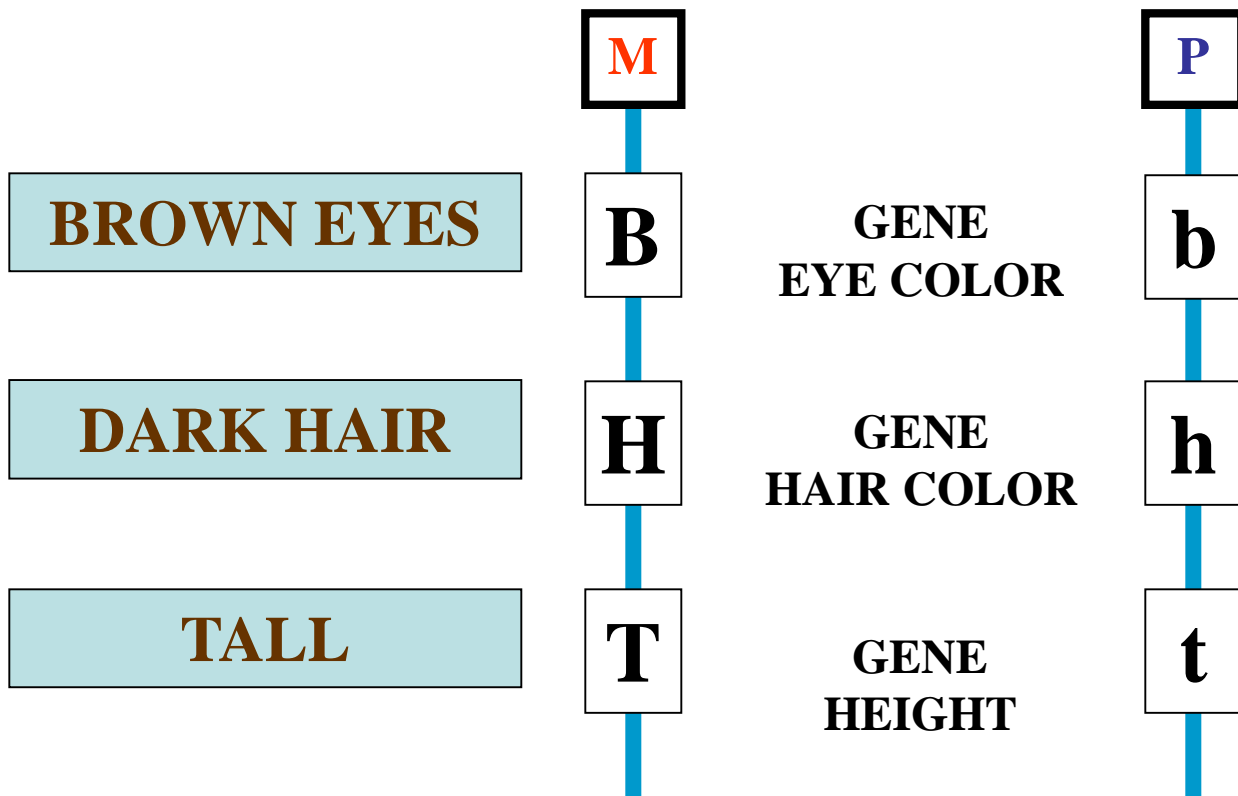


GENE POOL



HOMOLOGOUS CHROMOSOMES

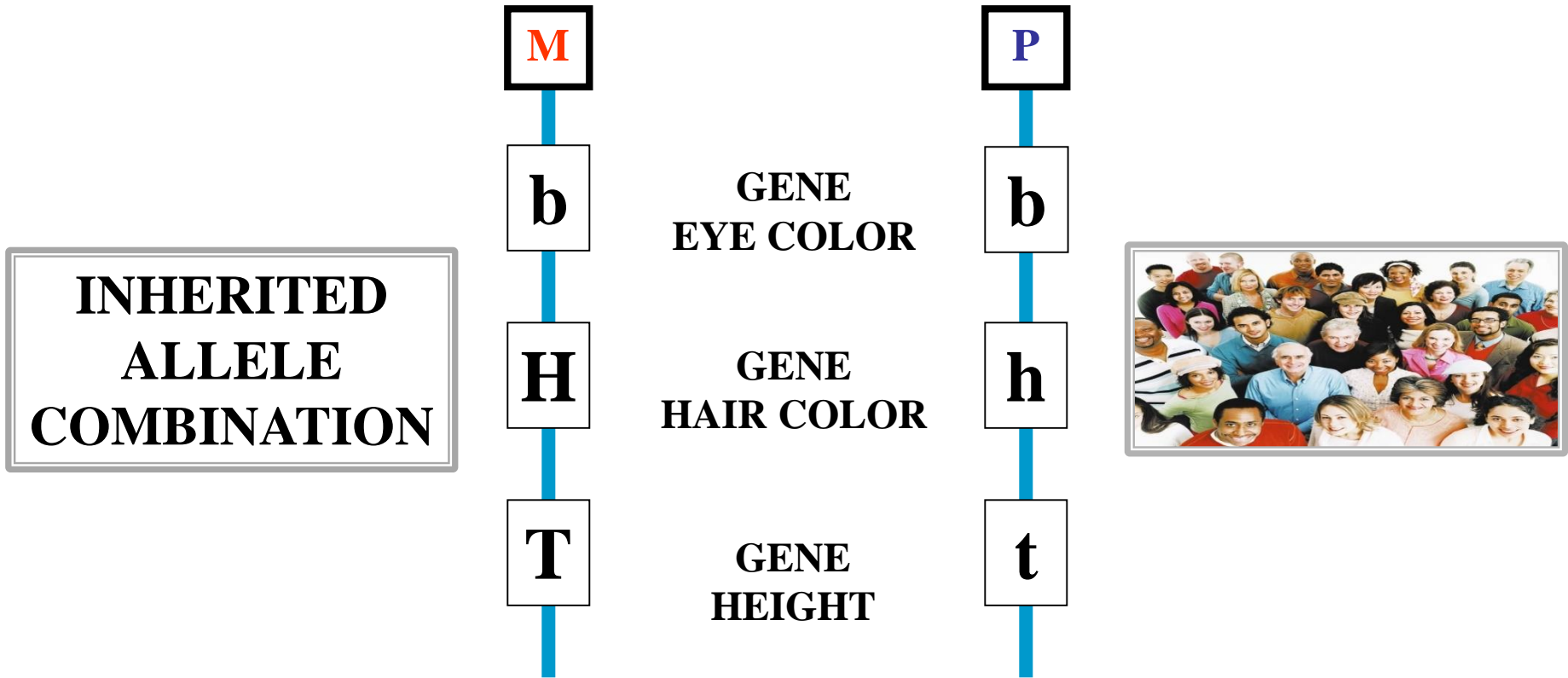
GENE POOL



HOMOLOGOUS CHROMOSOMES

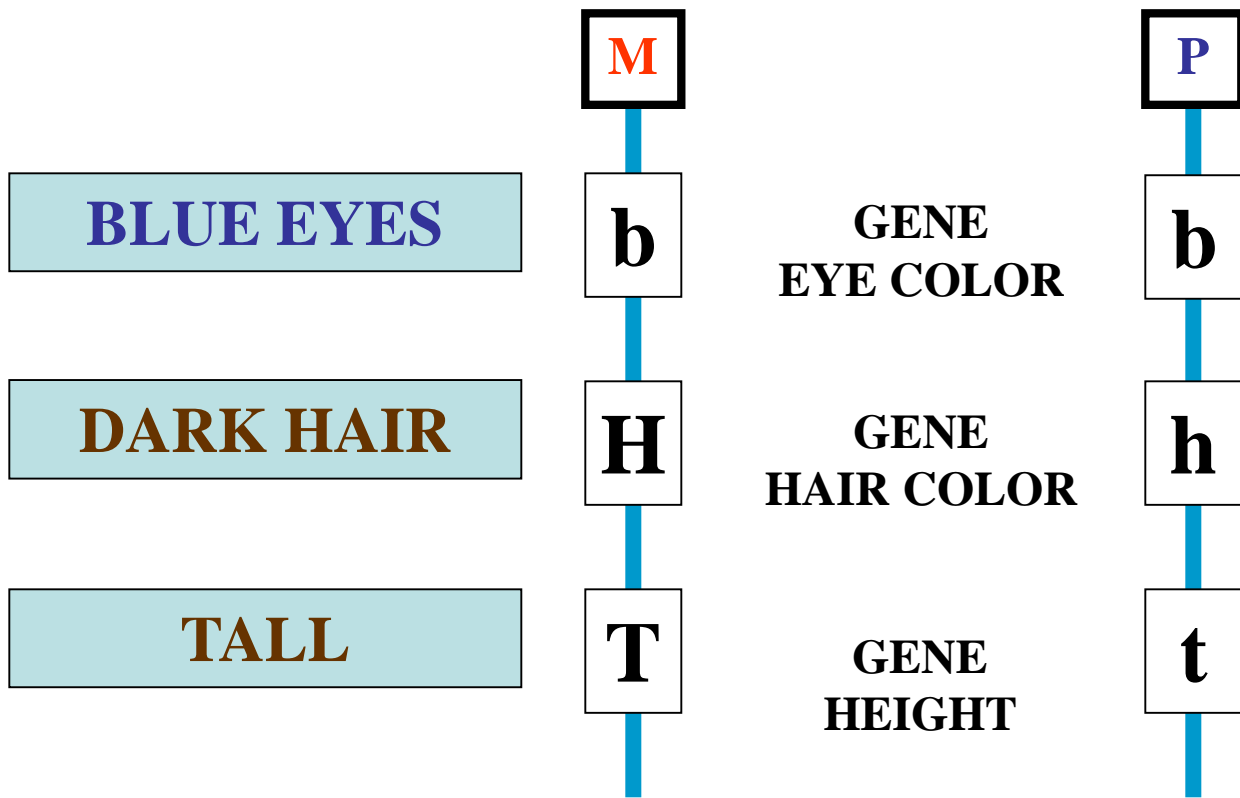


GENE POOL



HOMOLOGOUS CHROMOSOMES

GENE POOL



HOMOLOGOUS CHROMOSOMES