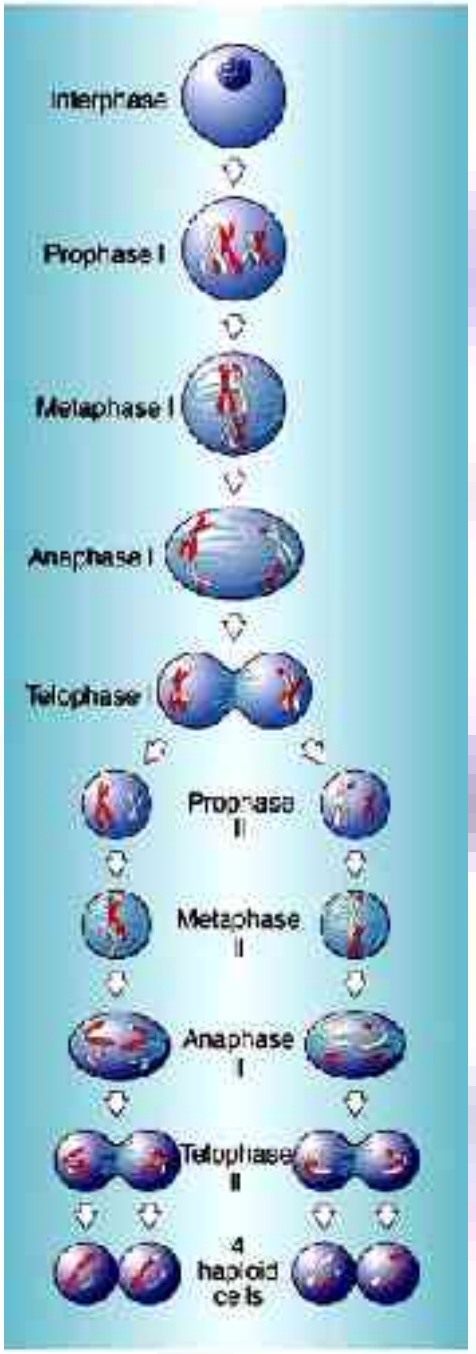
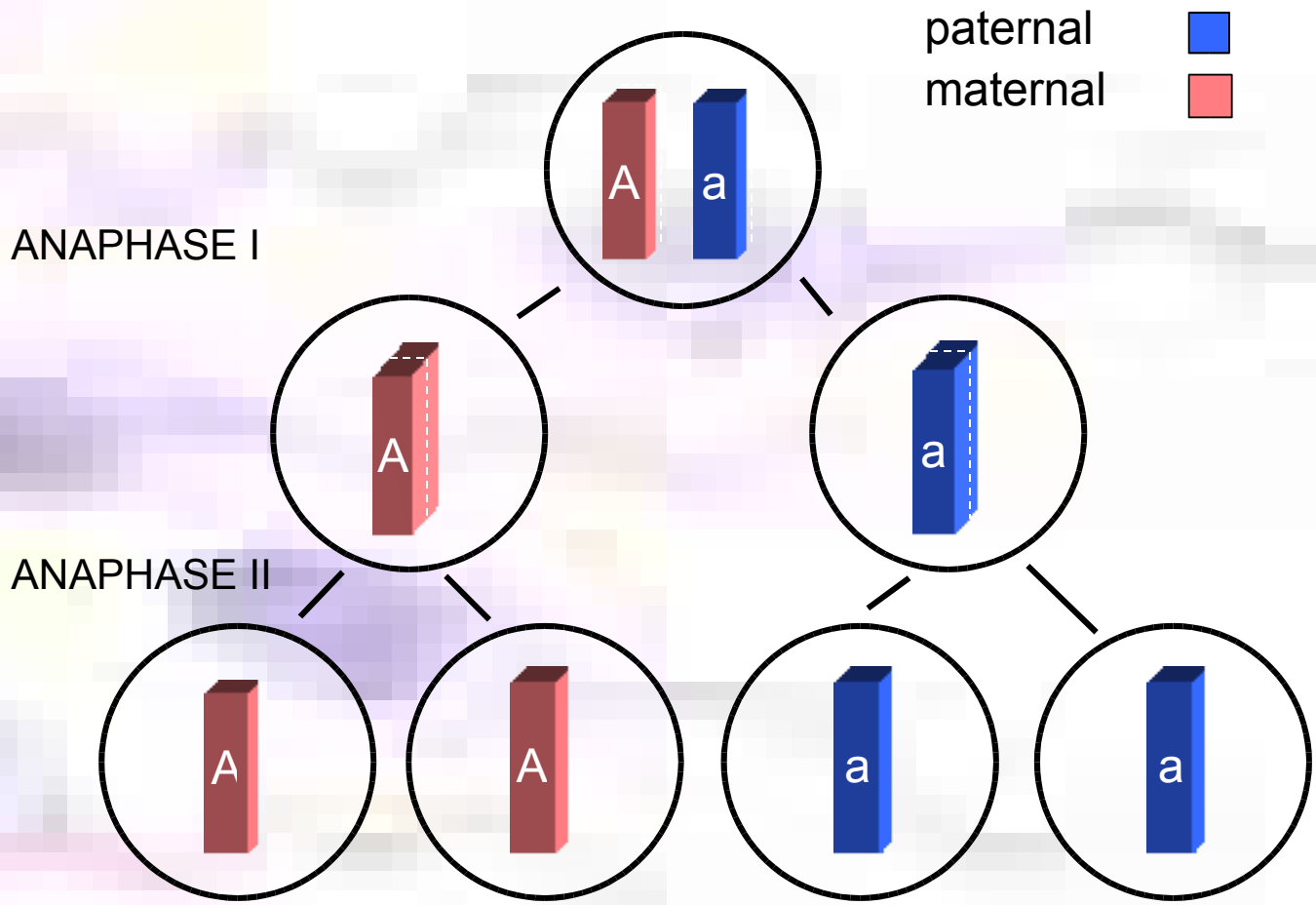
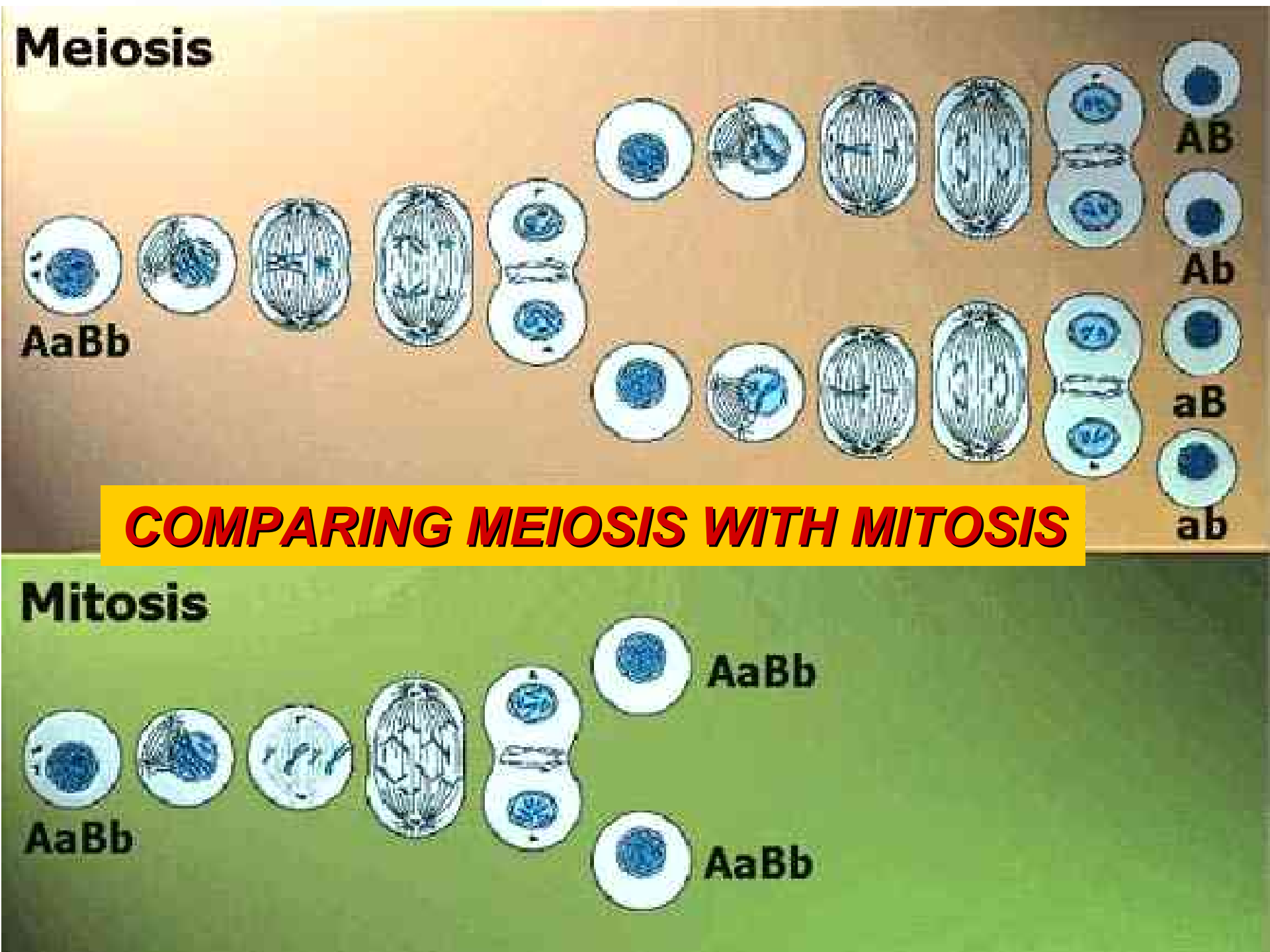
MEIOSIS

Institute of Biology and Medical Genetics of the First Faculty of Medicine and General Teaching Hospital

REDUCTION OF THE CHROMOSOME NUMBER AND SEPARATION BY MEIOSIS





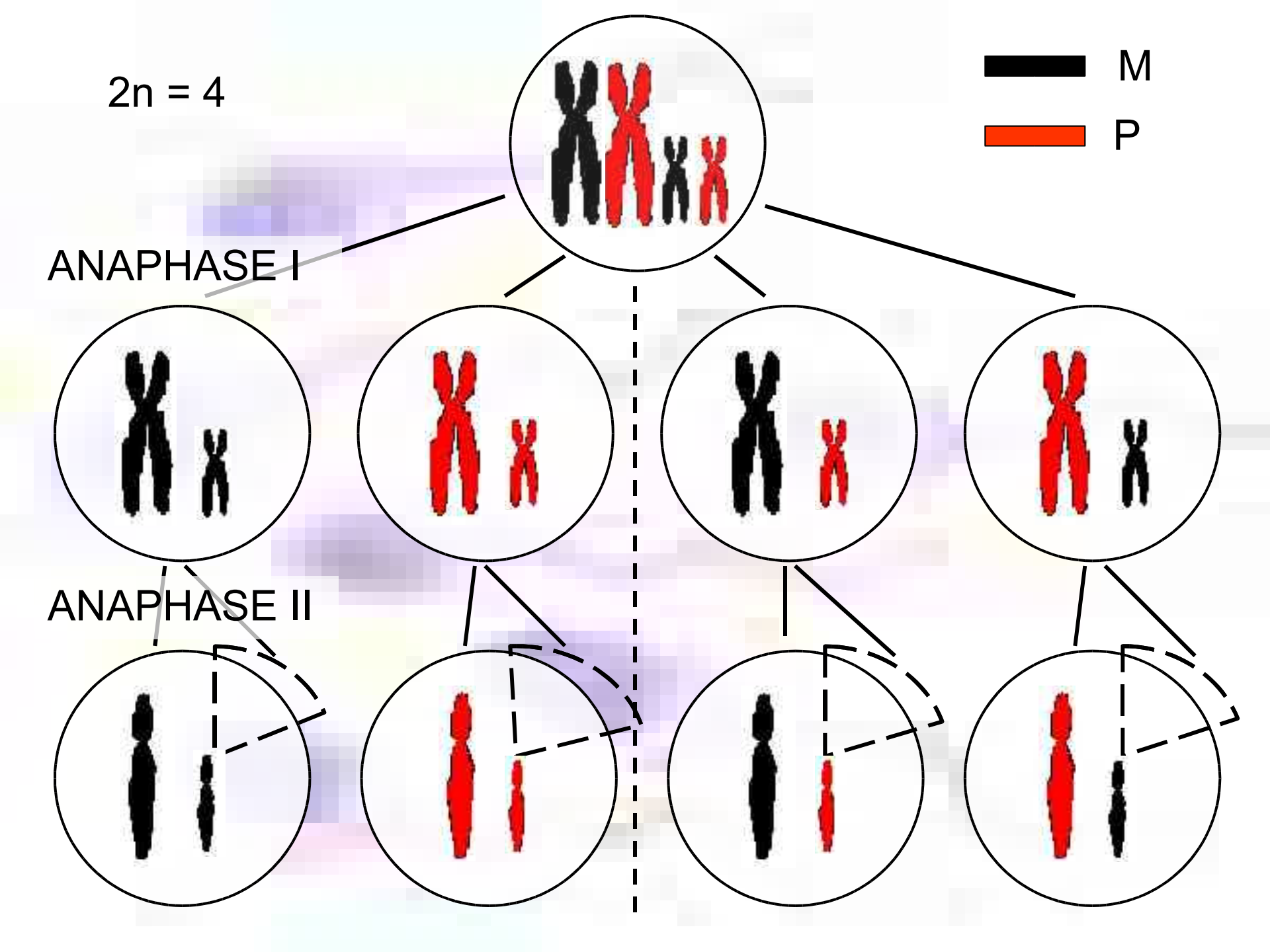

Meiosis
AaBb
AB
Ab
aB
ab
COMPARING MEIOSIS WITH MITOSIS
Mitosis
AaBb
AaBb
AaBb

Task 2, p. 28

DRAW THE EXPECTED DISTRIBUTION OF 2 PAIRS OF CHROMOSOMES (2n = 4) DURING MEIOSIS (NO-CROSSING OVER IS SUPPOSED)

HOW MANY DIFFERENT TYPES OF GAMETES CAN ORIGINATE WHEN:

2n = a) 4, b) 6, c) 46?


2n = 4
M
P
ANAPHASE I
ANAPHASE II

HOW MANY DIFFERENT TYPES OF GAMETES CAN ORIGINATE WHEN: 2n = a) 4, b) 6, c) 46?

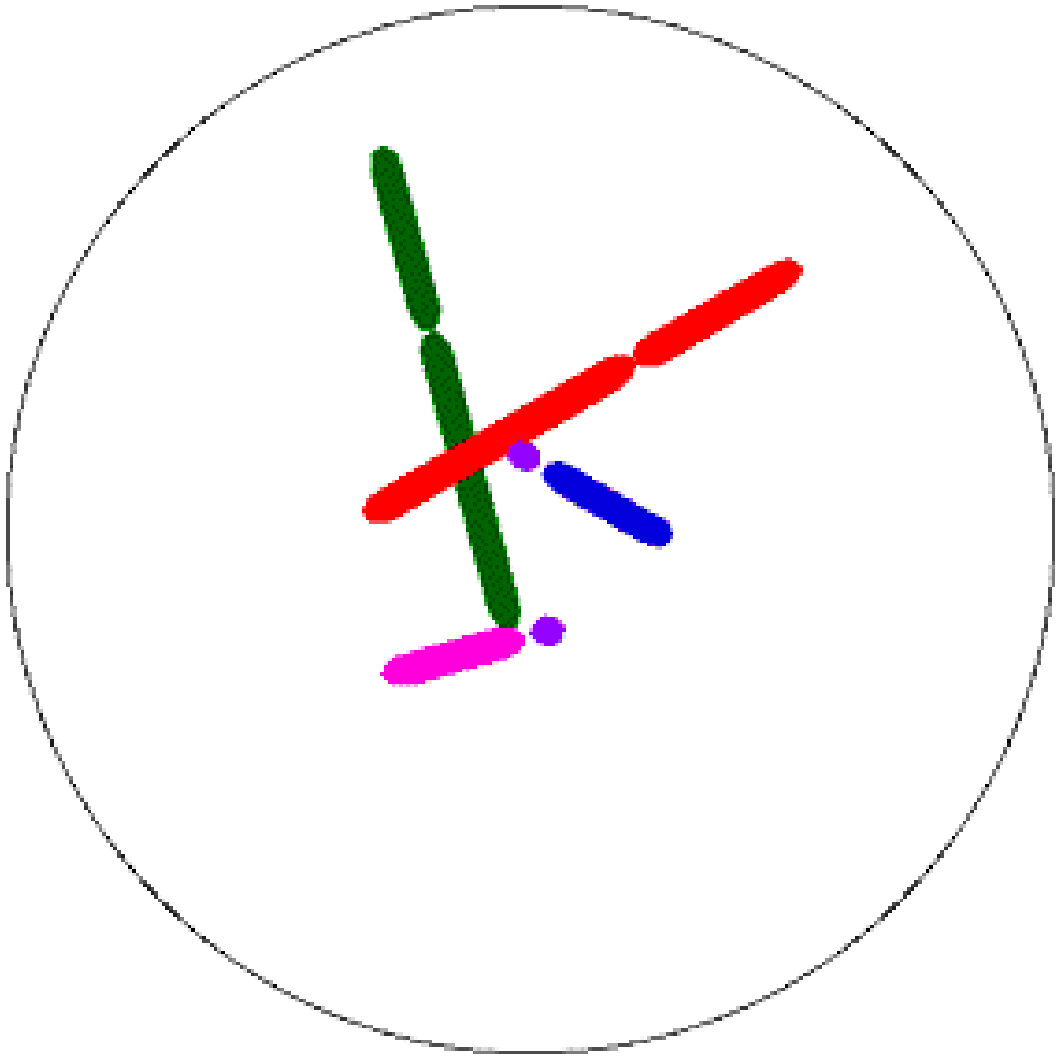
a) 4

b) 8

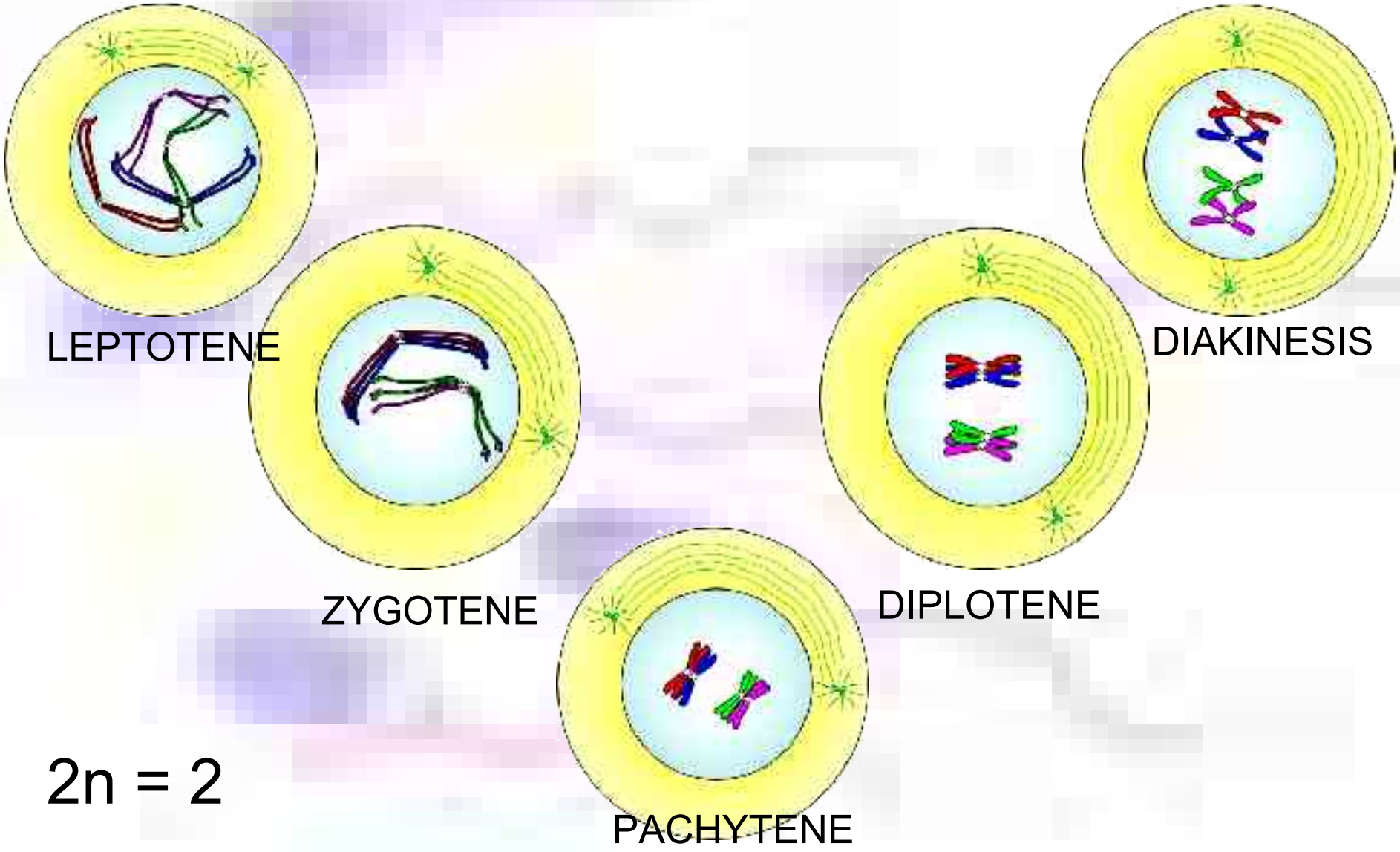
c) 2^{23}

In general 2^n

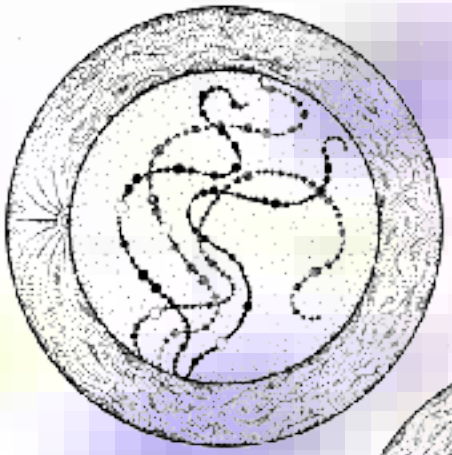
OOGENESIS



MEIOSIS – PROPHASE I

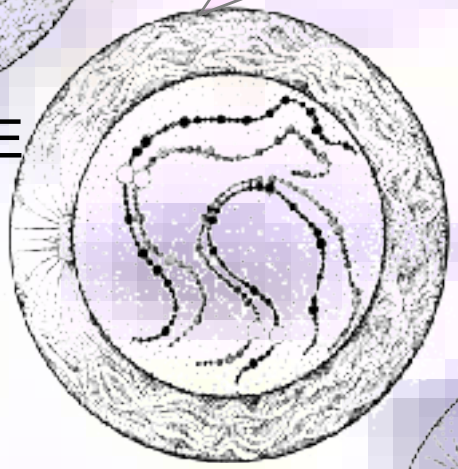


MEIOSIS – PROPHASE I

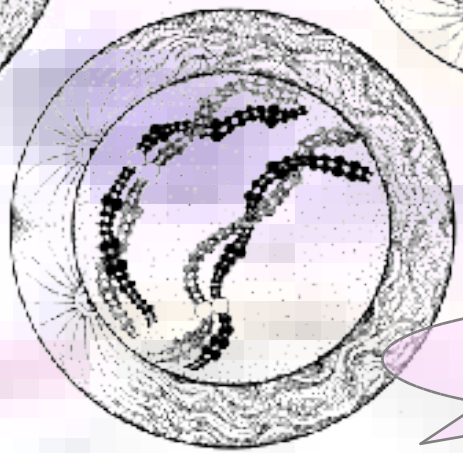


LEPTOTENE

SYNAPSE
BIVALENT



ZYGOTENE



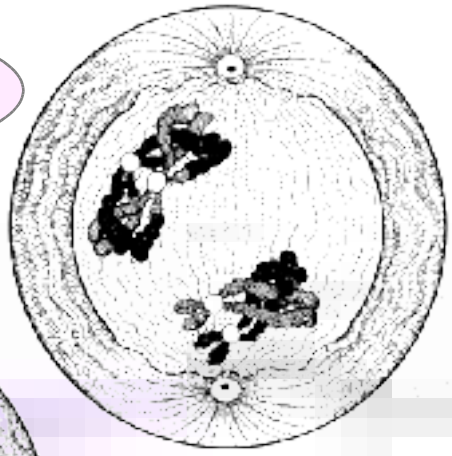
PACHYTENE

CROSSING-OVER

DIPLOTENE

DESYNAPS
E

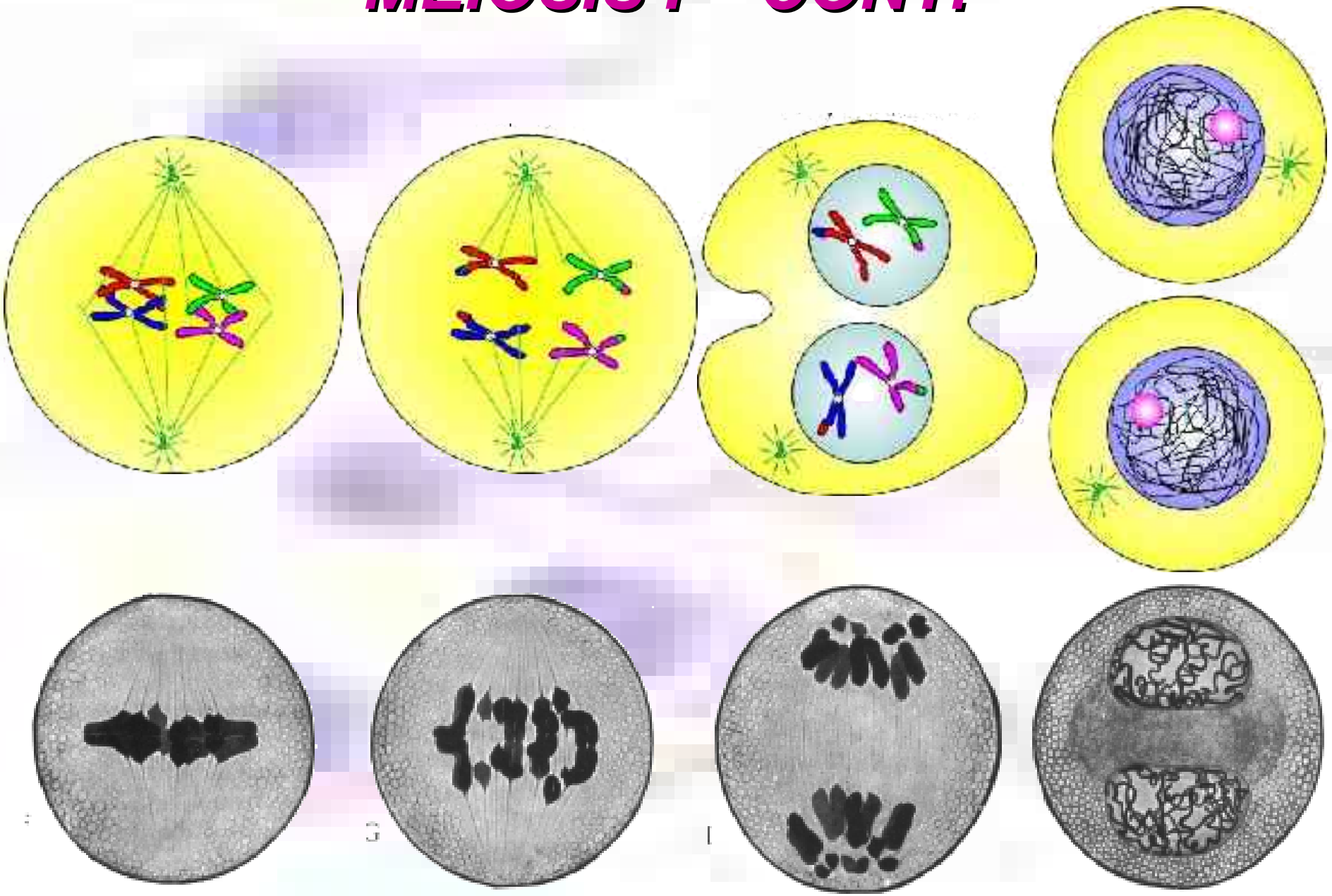
TETRAD



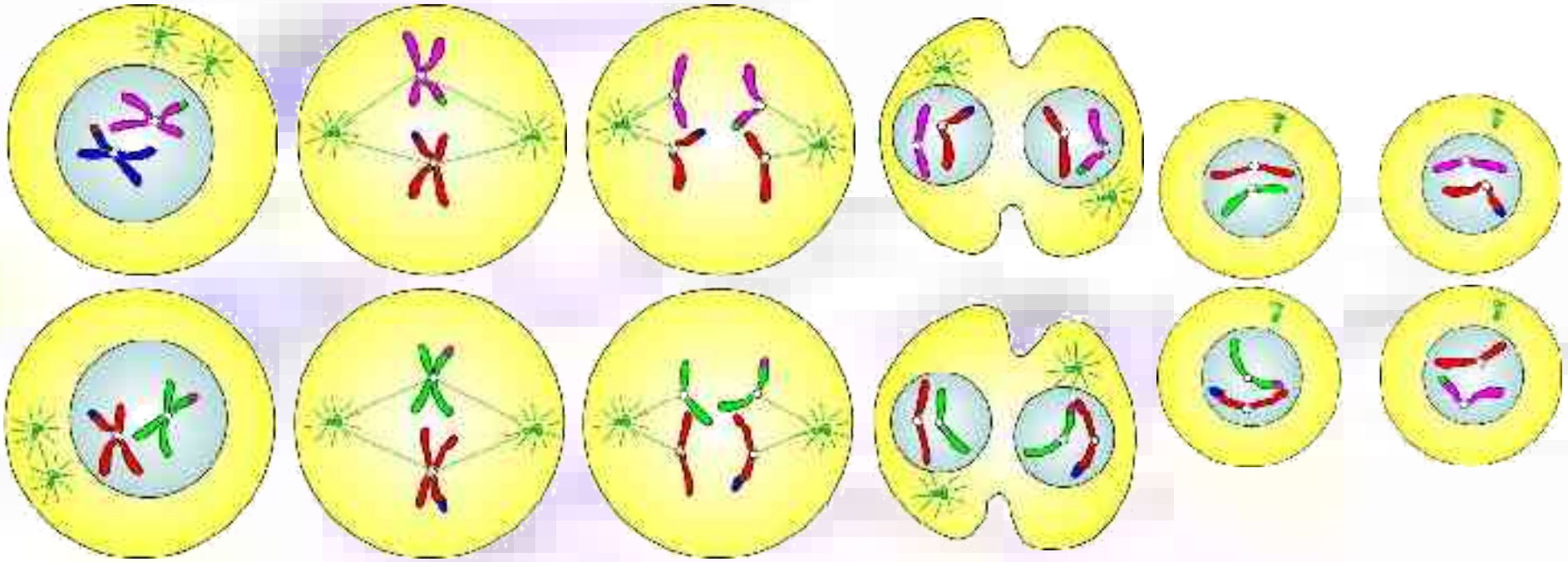
DIAKINESIS

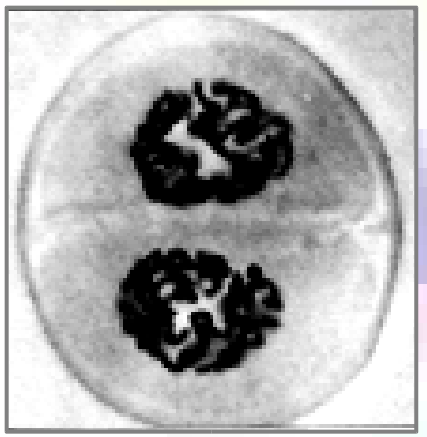
2n = 4

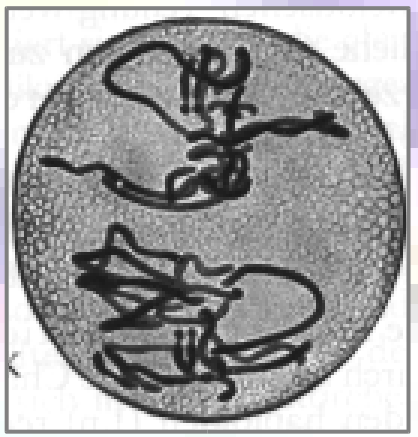
MEIOSIS I – CONT.

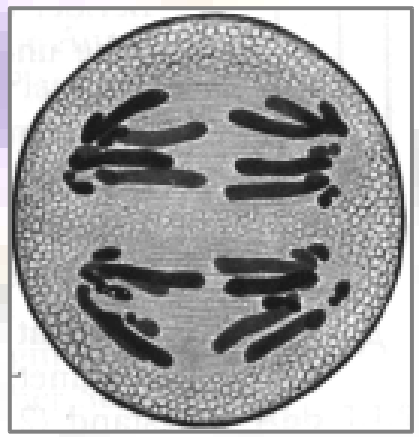


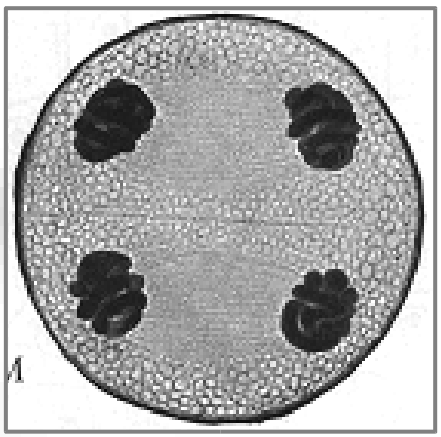
MEIOSIS II





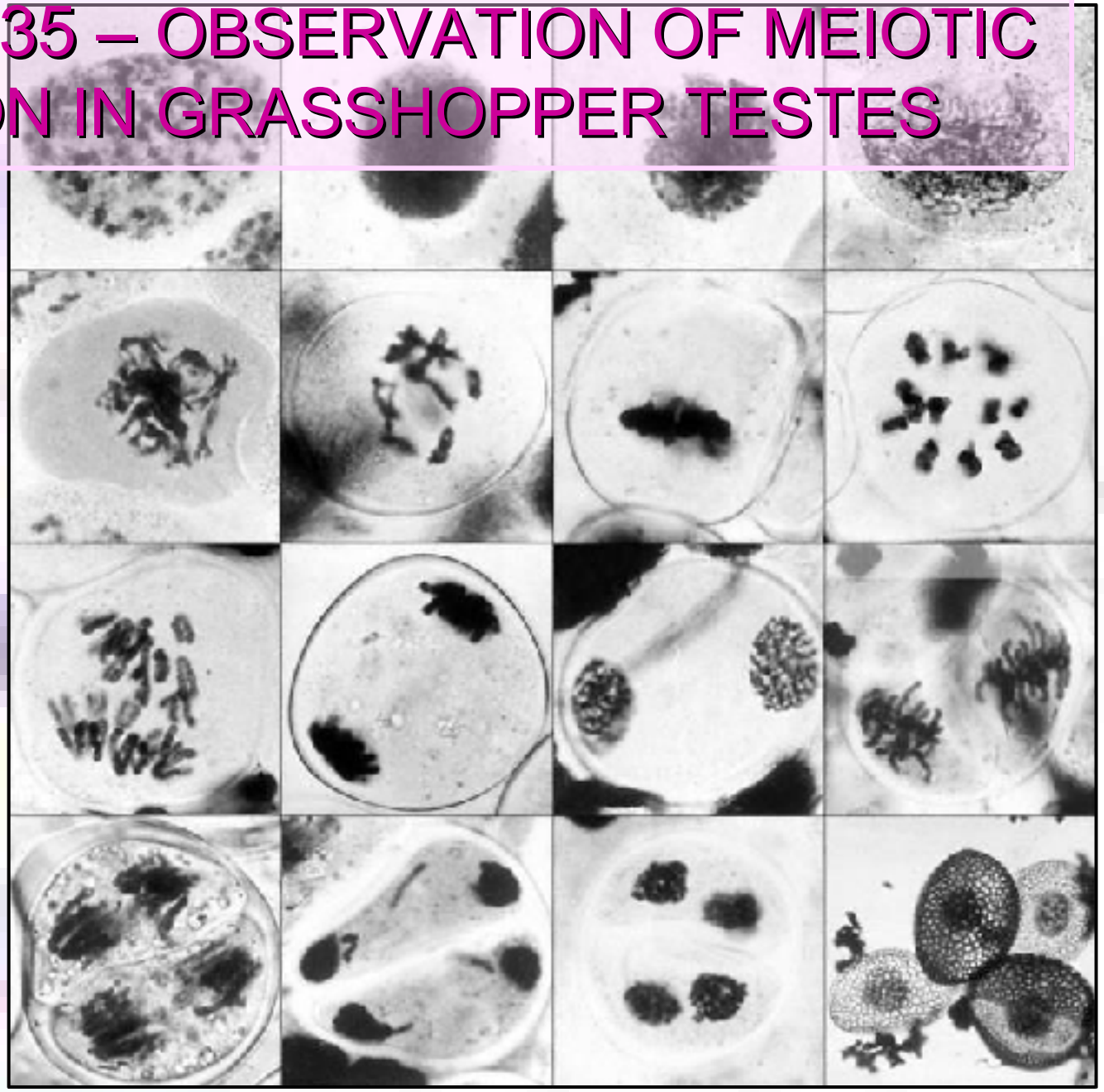






MEIOSIS - SUMMARY

Task 9, p. 35 – OBSERVATION OF MEIOTIC DIVISION IN GRASSHOPPER TESTES



Compare with spermatogenesis in species

LILIUM

GRANDIFLORUM

Task 7, p. 29

WHICH GENETIC MECHANISMS COULD CAUSE THE GENETIC VARIABILITY OF NEXT GENERATIONS?

RECOMBINATIONS

- INTRACHROMOSOMAL
- OF MATERNAL AND PATERNAL CHROMOSOMES DURING GAMETOGENESIS
- CHROMOSOME SETS DURING FERTILIZATION

MUTATIONS