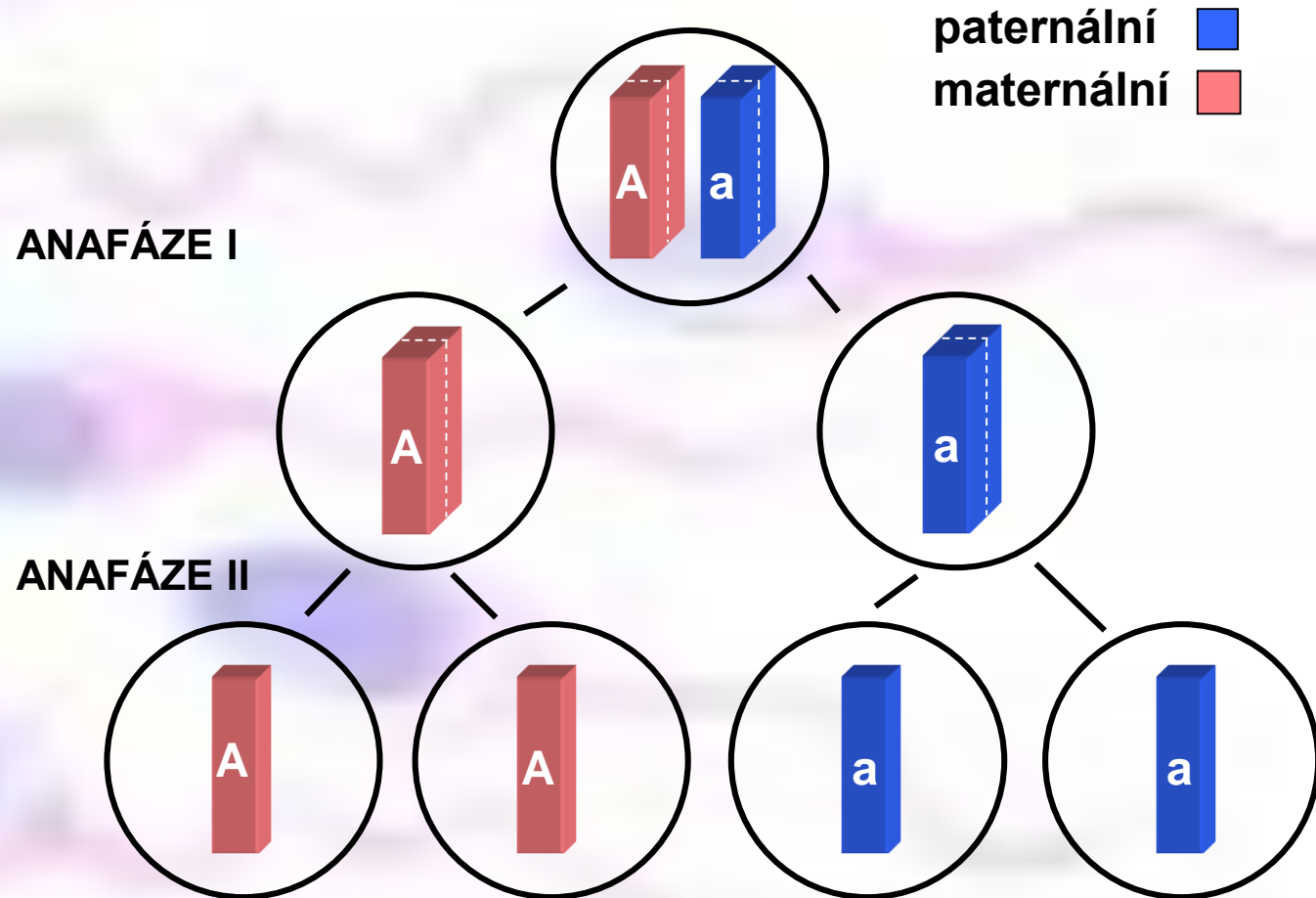
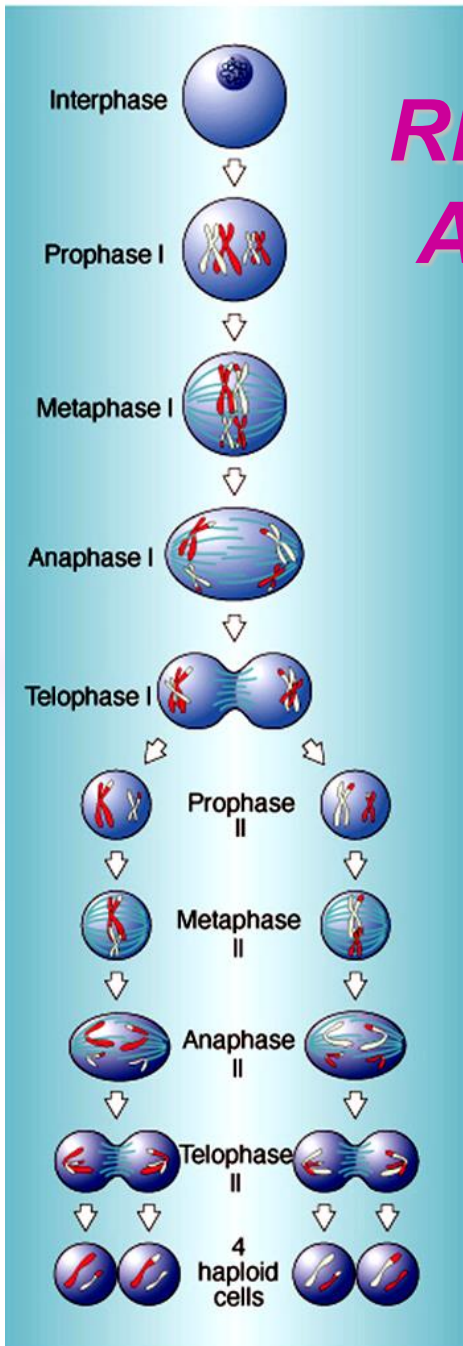


# ***MEIÓZA***

***ÚSTAV BIOLOGIE A LÉKAŘSKÉ GENETIKY 1. LF UK***

# REDUKCE POČTU CHROMOSOMŮ A JEJICH ROZCHOD PŘI MEIÓZE



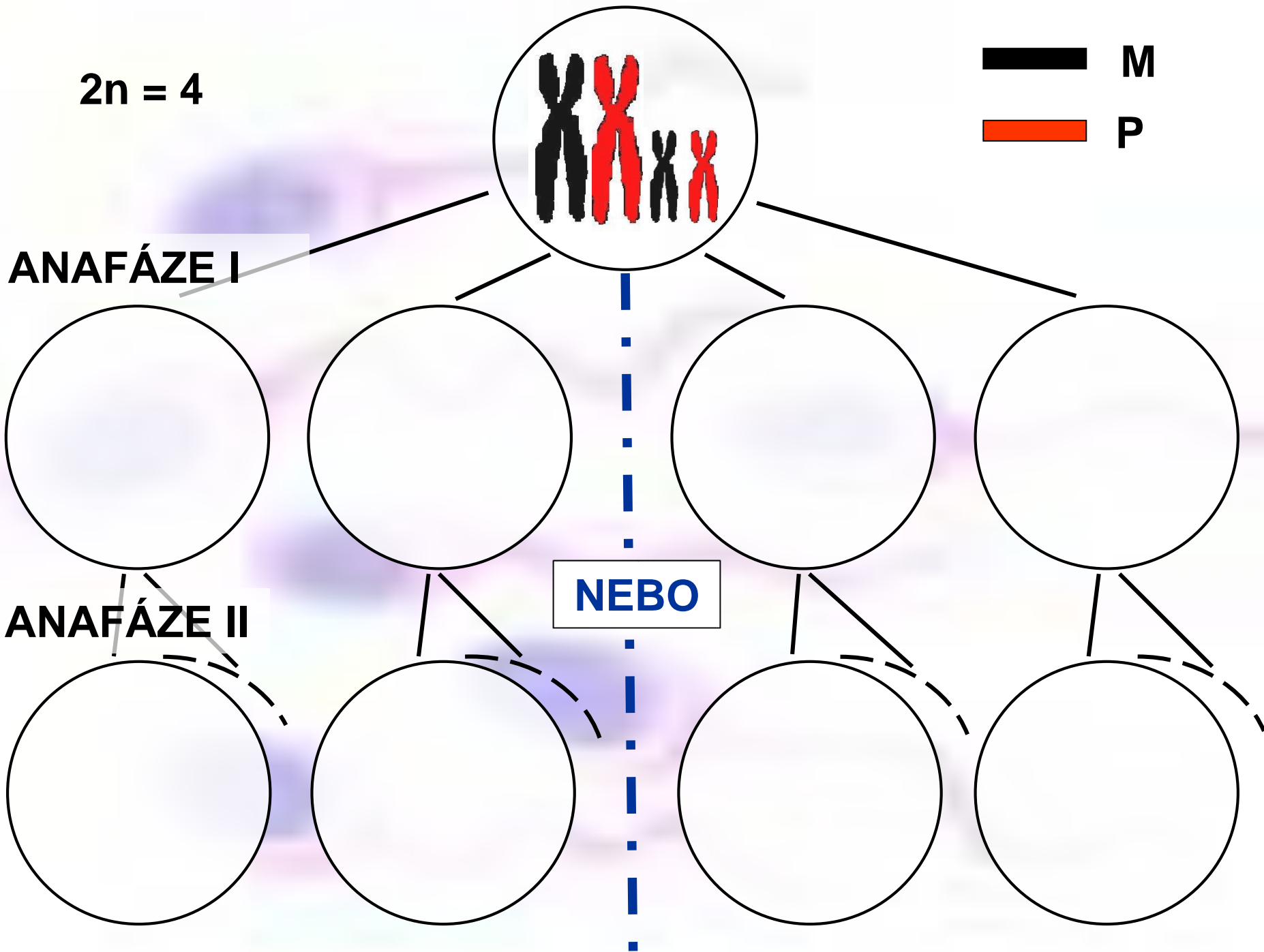
**ZAKRESLETE SCHÉMA DISTRIBUTUCE 2 PÁRŮ  
CHROMOSOMŮ ( $2n = 4$ ) PŘI MEIÓZE ZA  
PŘEDPOKLADU, ŽE NEDOCHÁZÍ KE  
CROSSING-OVERU.**

**KOLIK TYPŮ GAMET MŮŽE VZNIKNOT,  
JESTLIŽE:**

- a)  $2n = 4$  chromosomy,**
- b)  $2n = 6$  chromosomů,**
- c)  $2n = 46$  chromosomů?**

$2n = 4$

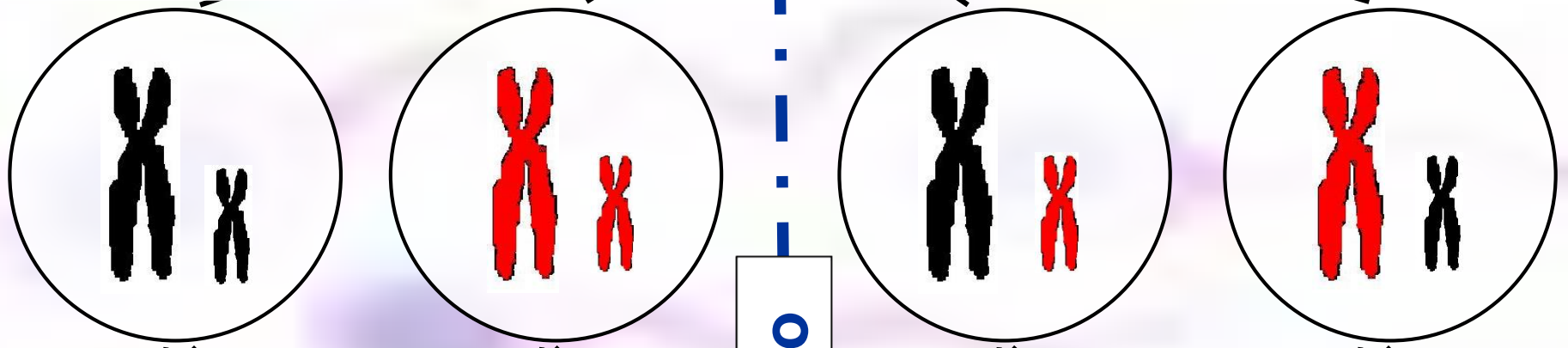
■ M  
■ P



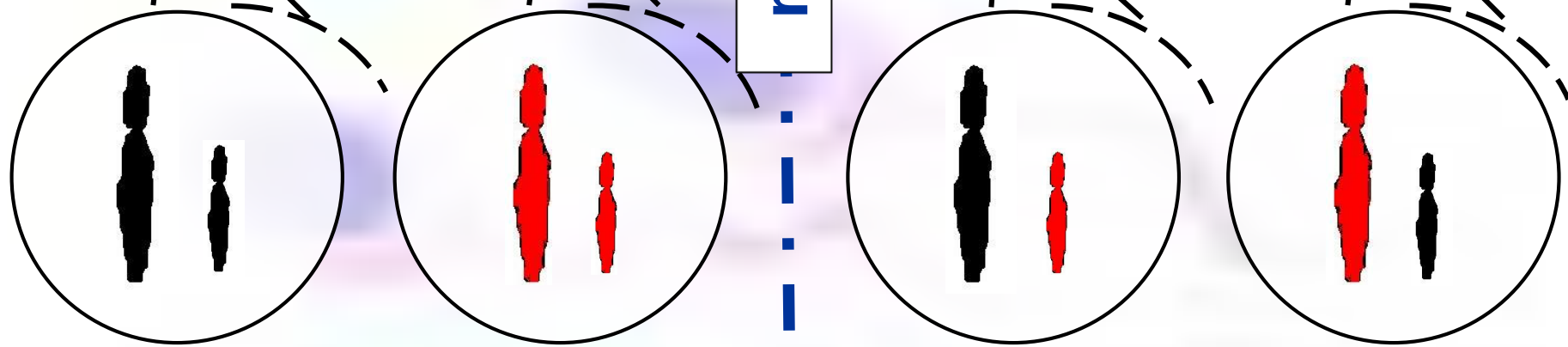
$2n = 4$

■ M  
■ P

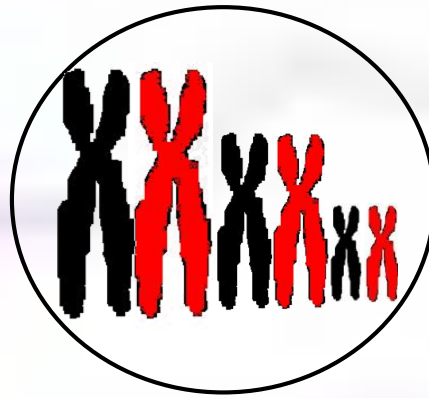
ANAFÁZE I



ANAFÁZE II



$2n = 6$



■ M  
■ P

**ANAFÁZE I**

**ANAFÁZE II**

$2n = 6$

■ M  
■ P

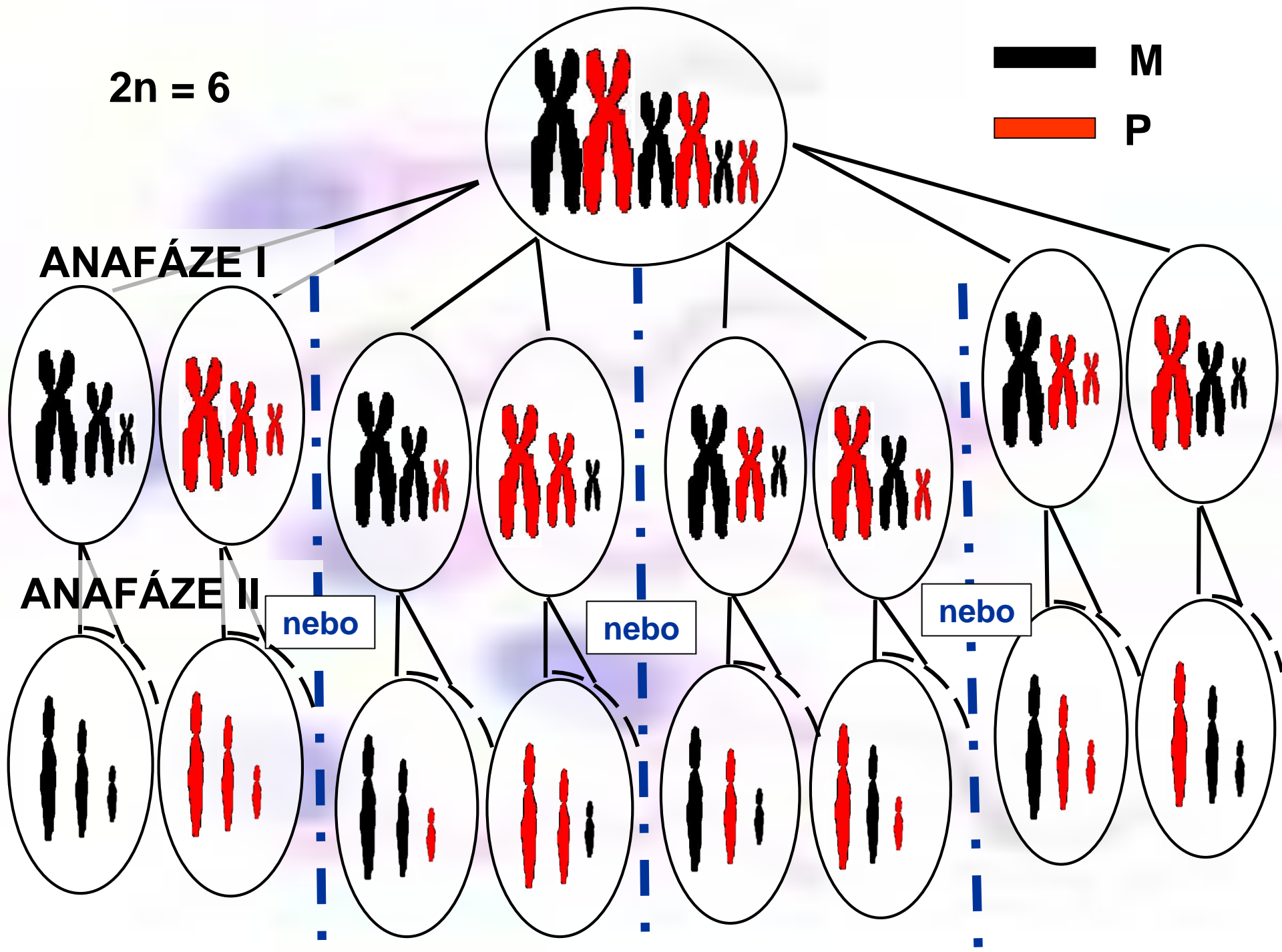
ANAFÁZE I

ANAFÁZE II

nebo

nebo

nebo



***KOLIK TYPŮ GAMET MŮŽE VZNIKNOU,  
JESTLIŽE  $2n = a) 4, b) 6, c) 46$ ?***

**a) 4**

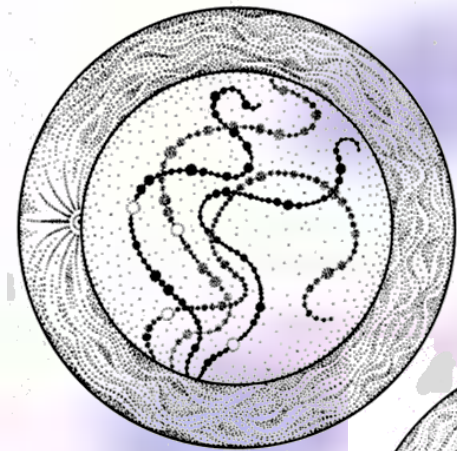
**b) 8**

**c)  $2^{23} = 8\,388\,608$  gamet**

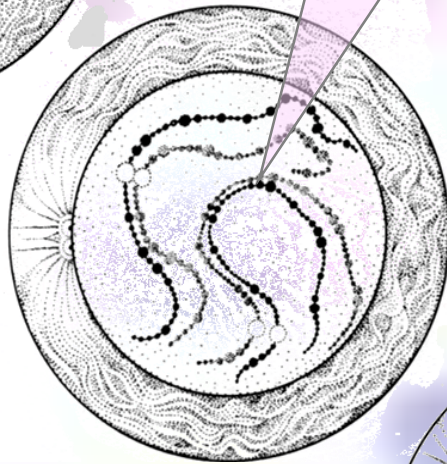
**Obecně  $2^n$**



# MEIÓZA – PROFÁZE I

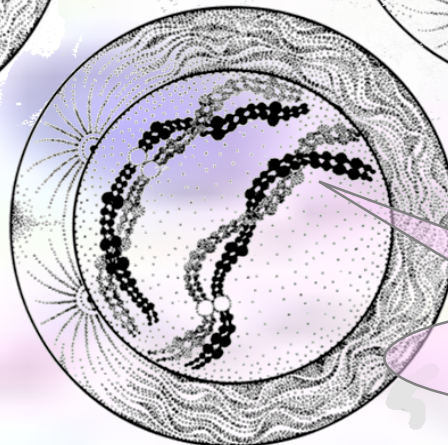


LEPTOTÉN



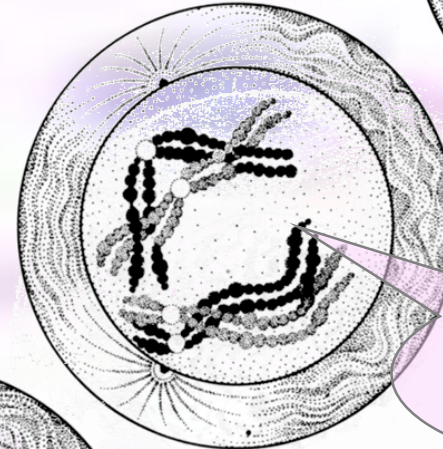
ZYGOTÉN

SYNAPSE  
BIVALENTY



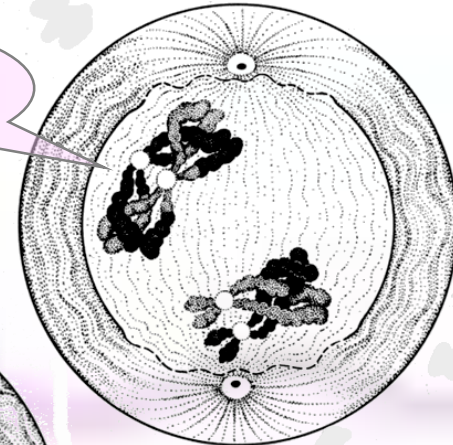
PACHYTÉN

CROSSING-OVER



DIPLOTÉN

DESYNAPSE  
CHIASMATA

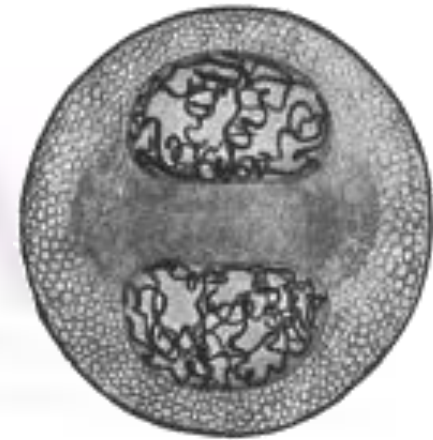
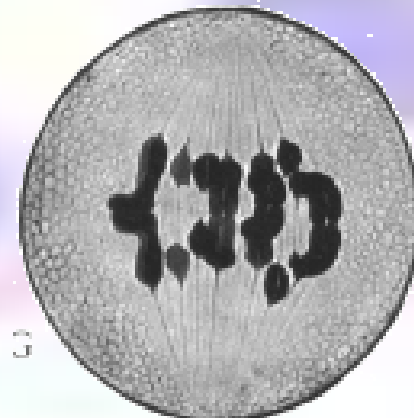
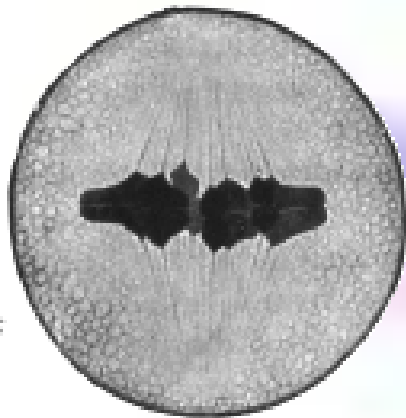
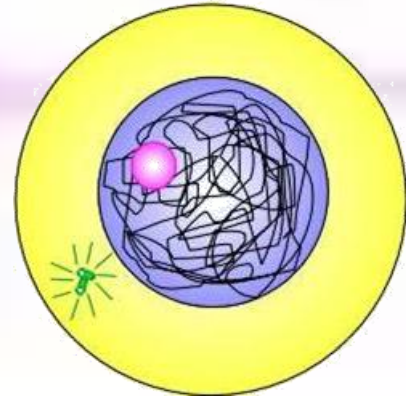
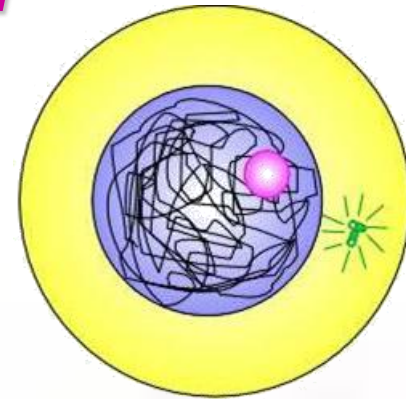
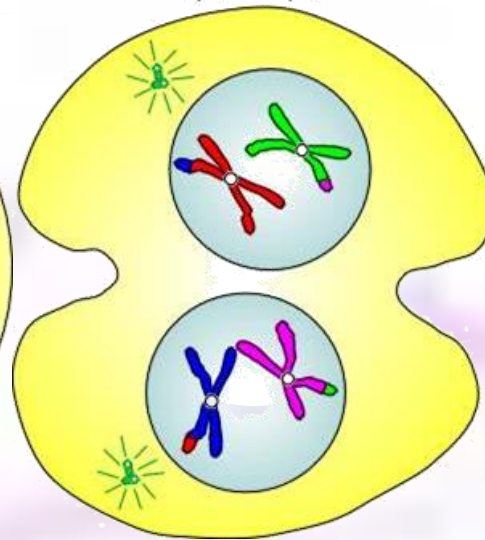
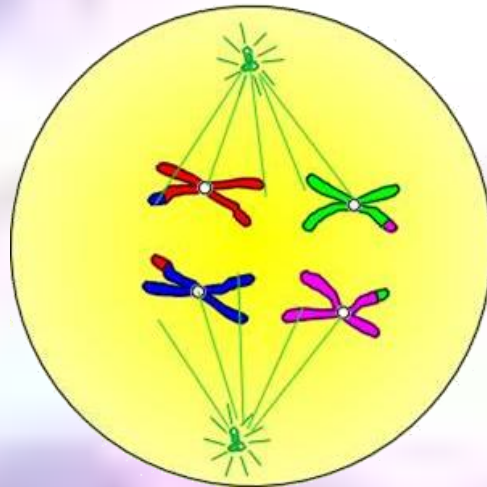
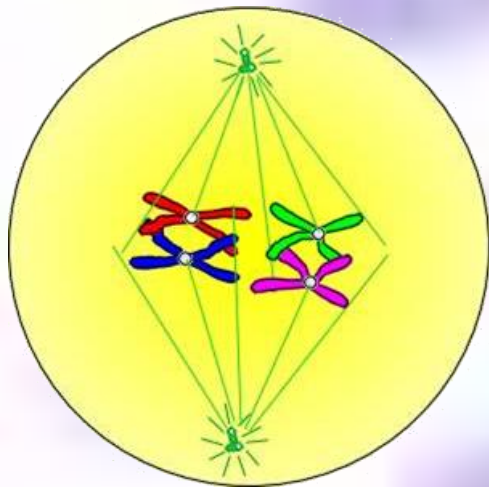


DIAKINEZA

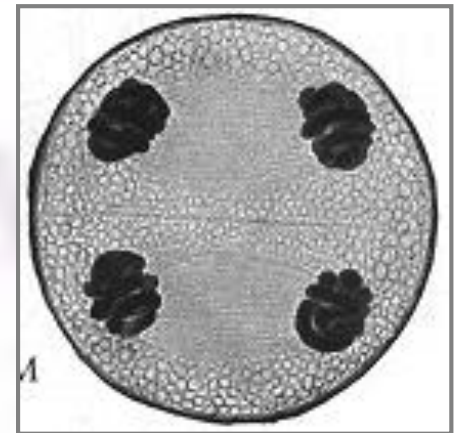
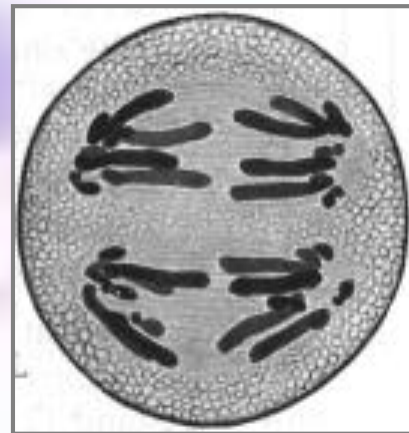
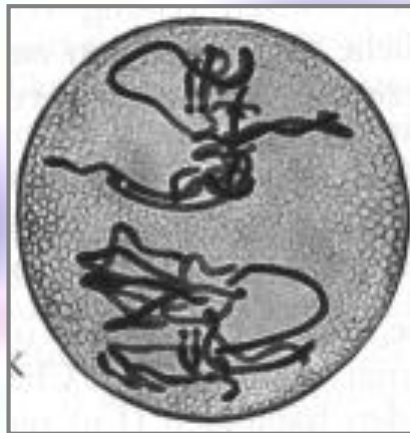
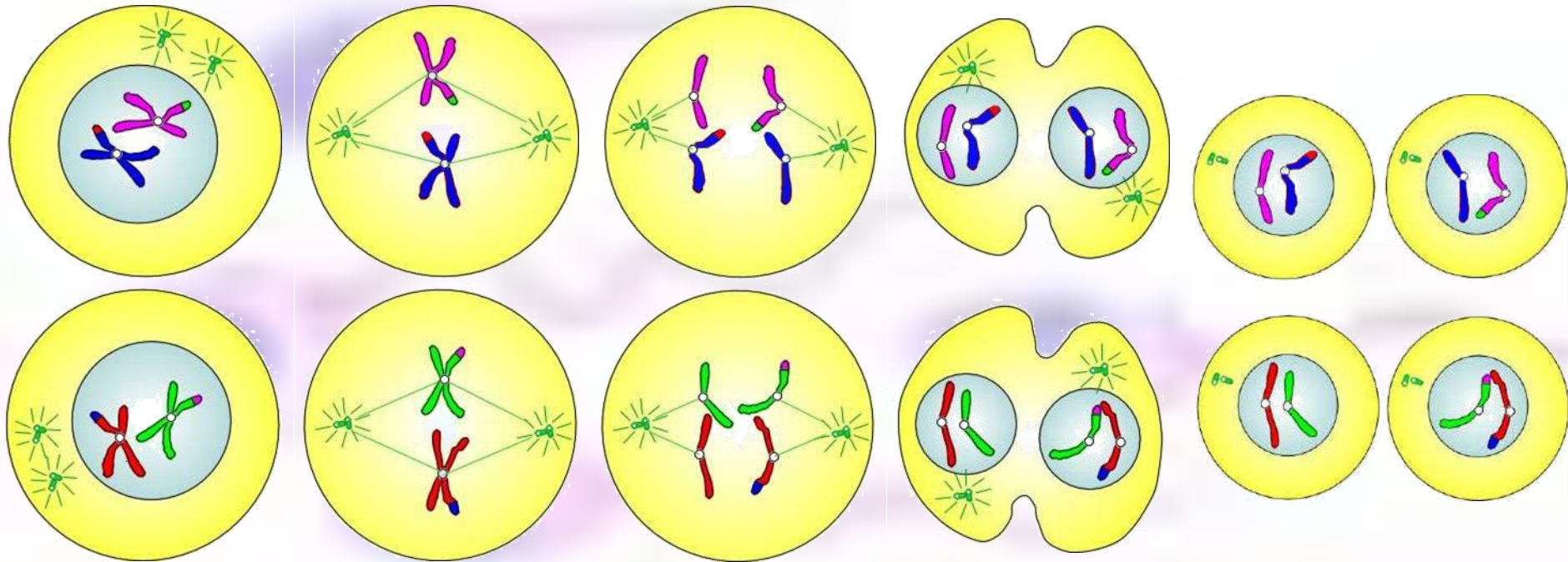
TETRÁDY

$$2n = 4$$

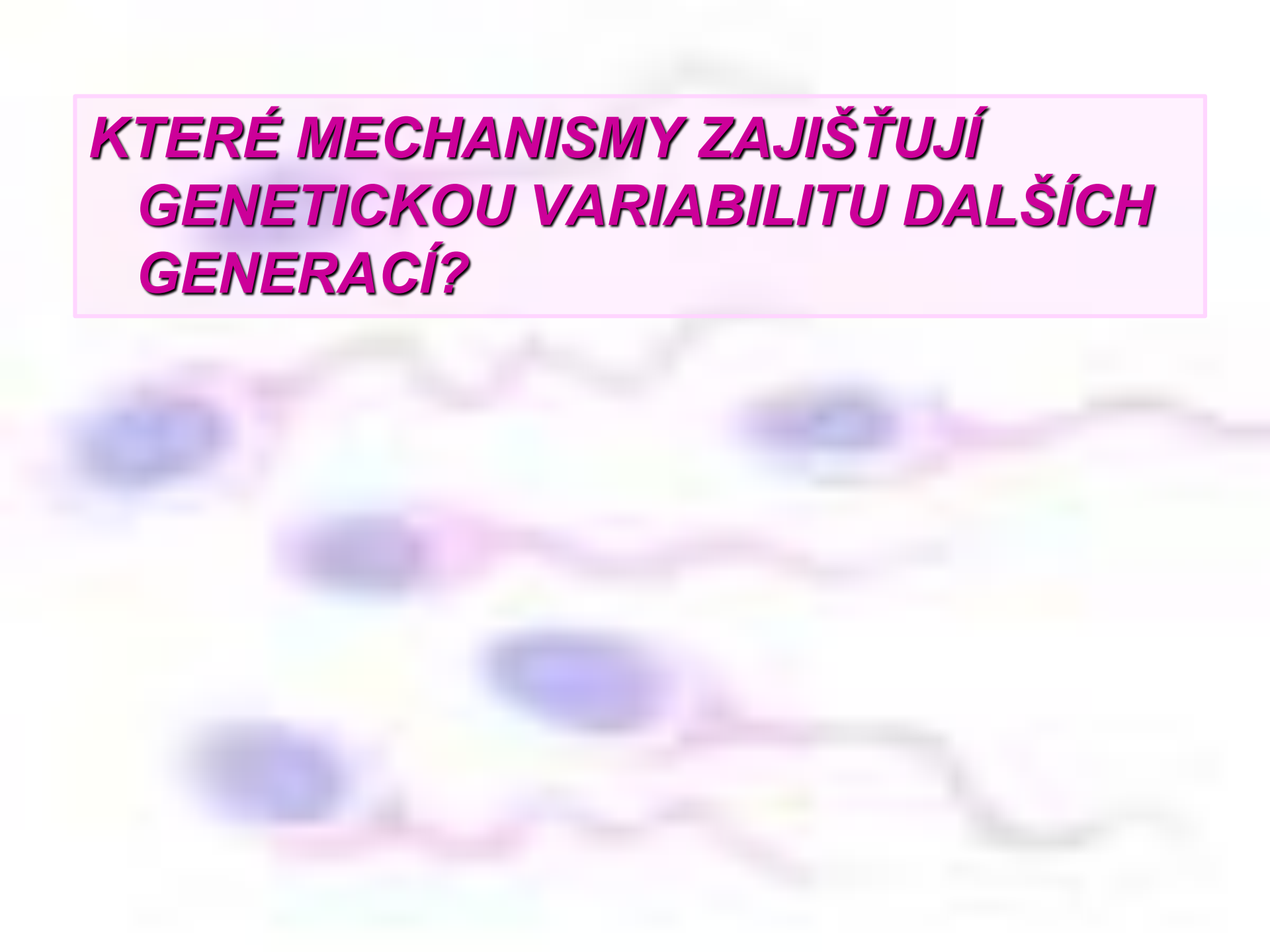
# MEIÓZA I - pokračování



# MEIÓZA II



***KTERÉ MECHANISMY ZAJIŠŤUJÍ  
GENETICKOU VARIABILITU DALŠÍCH  
GENERACÍ?***



# ***KTERÉ MECHANISMY ZAJIŠŤUJÍ GENETICKOU VARIABILITU DALŠÍCH GENERACÍ?***

## ***REKOMBINACE***

- ***INTRACHROMOSOMÁLNÍ***
- ***MATERNÁLNÍCH A PATERNÁLNÍCH  
CHROMOSOMŮ***
- ***SAD CHROMOSOMŮ PŘI OPLOZENÍ***

## ***MUTACE***

# VIRTUÁLNÍ MIKROSKOPIE

## OlyVIA software

Open Database

Database

Database name:

Server: 10.2.58.74\osis\_mssqlsrv

Database system: Microsoft SQL Server

User

Authentication: SQL Authentication

Name:

Password:

Log on to:

Use as standard database

Ready.

OK Cancel Options...

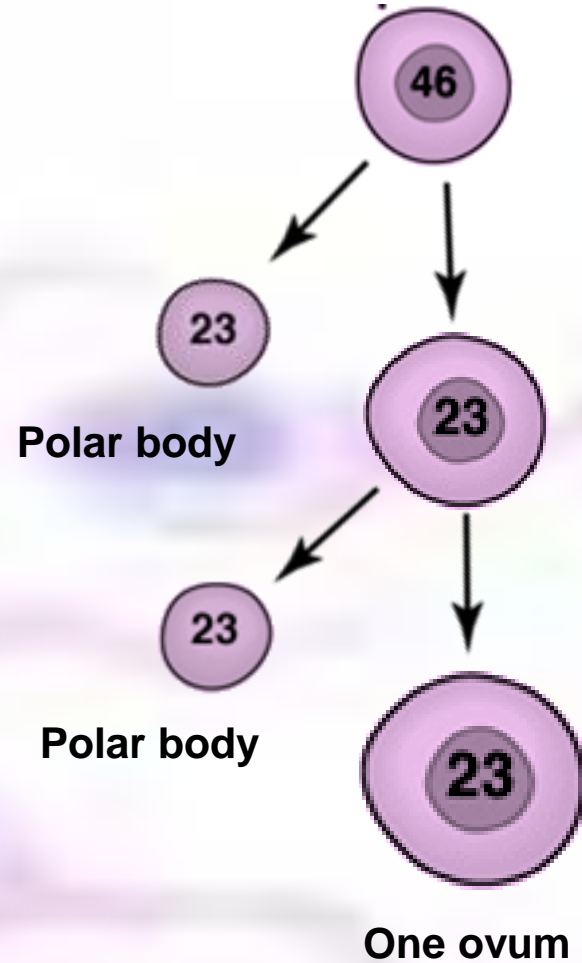
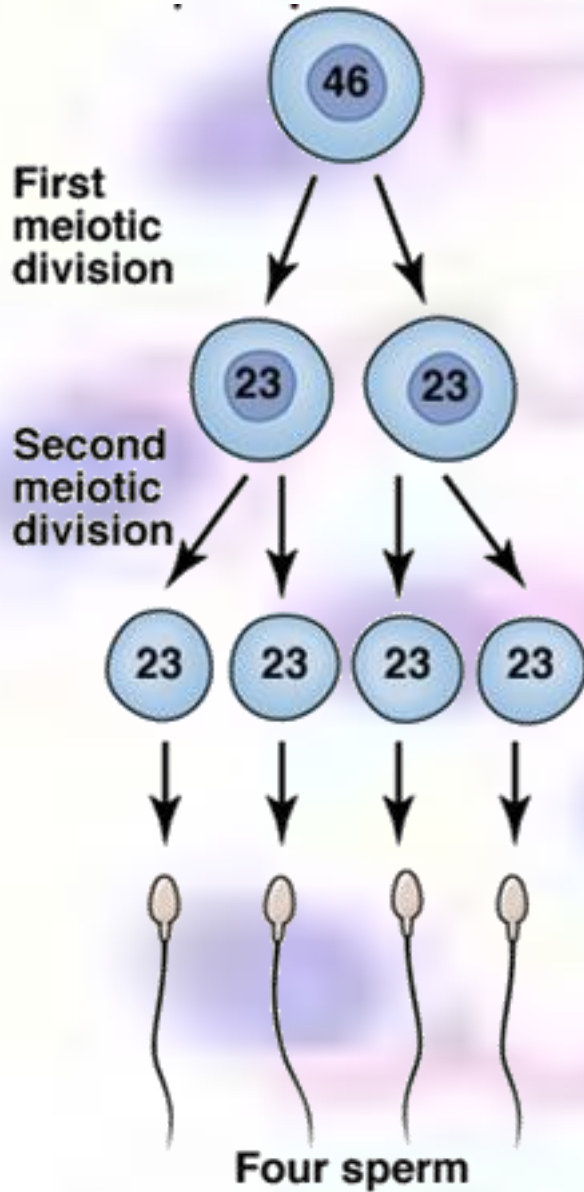
database name:

BIOLOGIE\_GENETIKA

name: biol\_student

password: student

# GAMETOGENEZE - SROVNÁNÍ



## ÚKOL 3 (protokol): Určete počty chromosomů, bivalentů a počet molekul DNA (chromatid) v lidské buňce (nebo jádru) v různých fázích meiotického dělení

Sledujeme	Buňka/jádro		
	Chromosomů	Bivalentů	Molekul DNA
<i>Pachyten</i>	46	23	92
<i>Diploten</i>	46	23	92
<i>Diakineza</i>	46	23	92
<i>Anafáze I</i>	46 (23+23)	0	92 (46+46)
<i>Telofáze I</i>	46/23	0	92/46
<i>Profáze II</i>	23	0	46
<i>Metafáze II</i>	23	0	46
<i>Telofáze II</i>	46/23	0	46/23