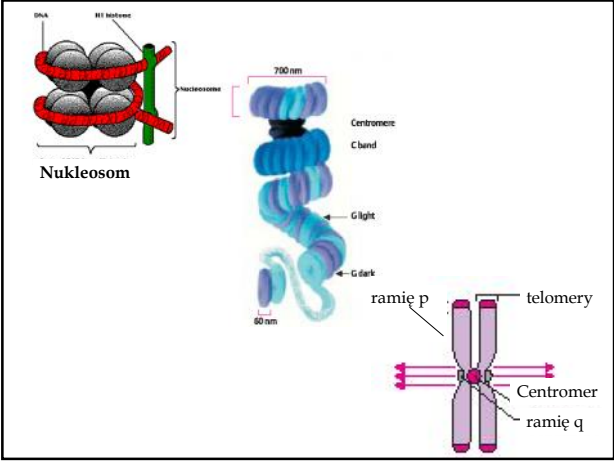
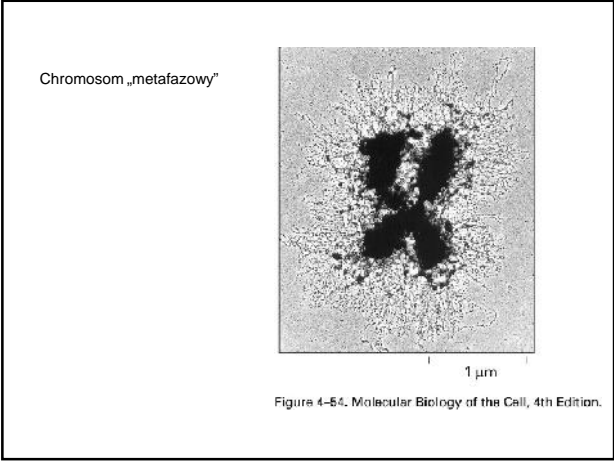


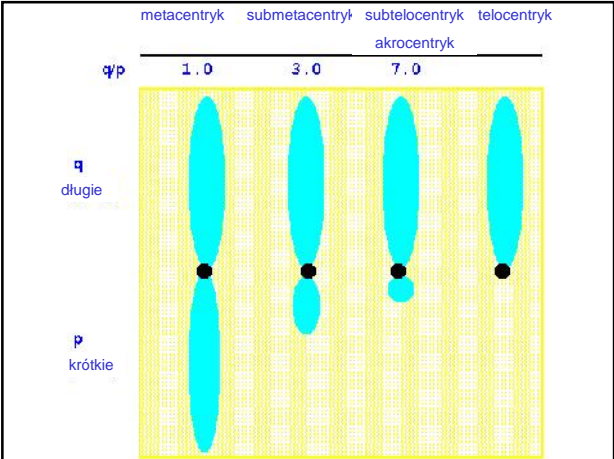
1



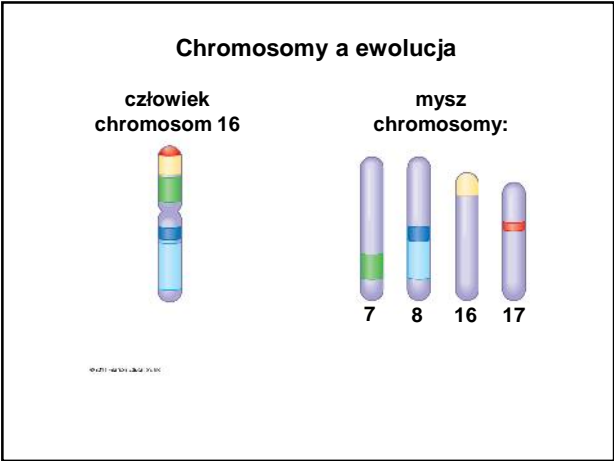
2



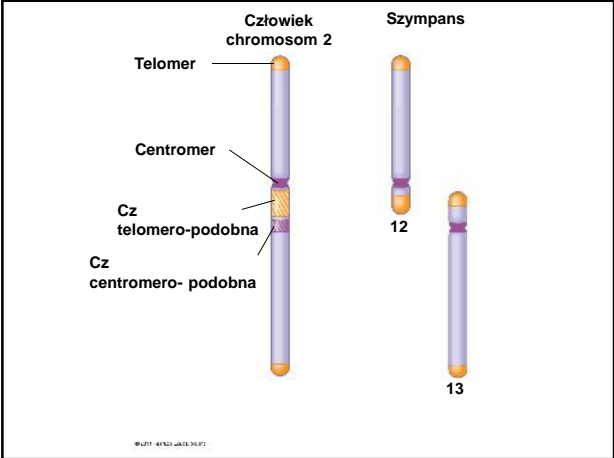
3



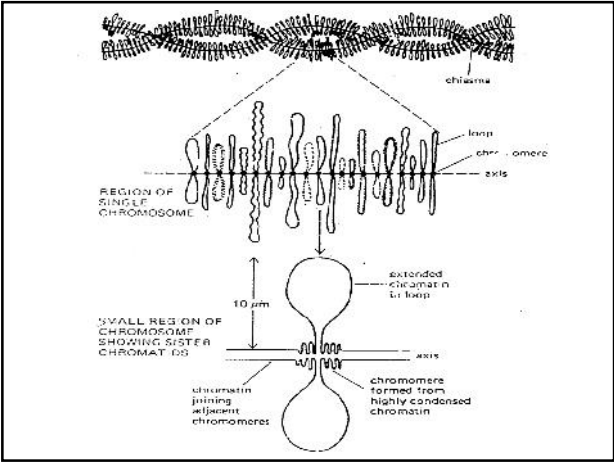
4



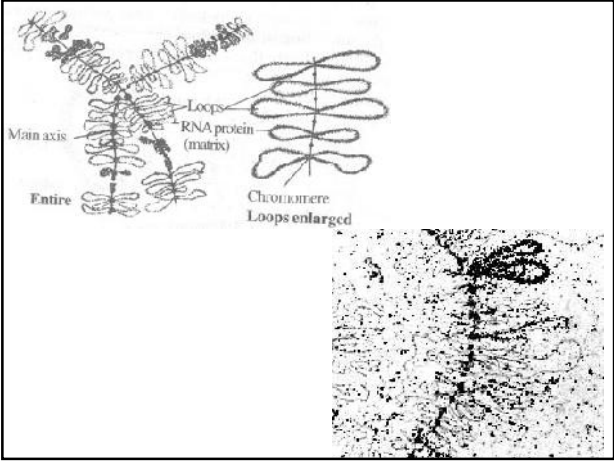
5



6



7



8

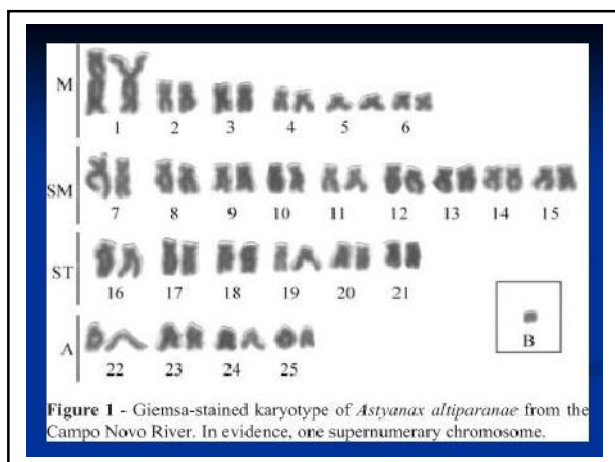
Chromosomy politeniczne- olbrzymie

- Spotykane cz sto u owadów w stadium poczwarki
- Powstaj w wyniku nast puj cych po sobie podziałów mitotycznych, bez kariokinezy (endomitozy)
- Powielone chromosomy (homologiczne) nie s rozrywane (poł czone s w centromerze)

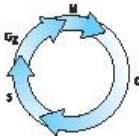
Politeniczne chromosomy: linie, linie i linie w postaciach

The image contains three micrographs of polytene chromosomes. The central one shows a highly condensed, banded structure with labels for **10002**, **20004**, and **20006**. The other two show different views of these chromosome structures.

9



10



CYKL ŻYCIOWY KOMÓRKI

- ✓ G₁- interfaza (faza spoczynkowa komórki) /2n; 2c/
- normalne funkcjonowanie komórki /2n; 2c/
- ✓ S- synteza DNA (replikacja DNA)- 8h
- powielenie każdej z nici DNA /2n; 4c/
- ✓ G₂- faza podwojonego genomu- 4h
- kondensacja DNA w chromosomach /2n; 4c/
- ✓ M- podział komórki (mitoza)- 1h
- powstanie komórek potomnych /2n; 2c/

n- liczba chromosomów; c- ilość DNA

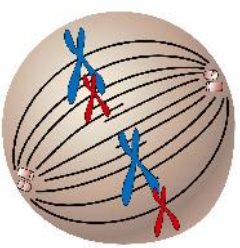
KAŻDY PODZIAŁ KOMÓRKI POPRZEDZA REPLIKACJA CHROMOSOMÓW

11

MITOZA

Metafaza

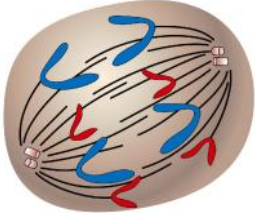
- Chromosomy układają się w płaszczy nie równikowej-chromatidy siostrzane s rozdzielone!!!



12

Anafaza

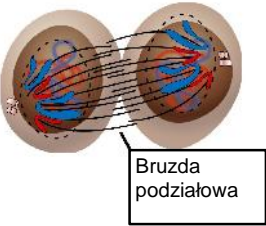
- P kaj centromery
- Chromatidy siostrzane rozchodz si do przeciwnych biegunów komórki



13

Telofaza

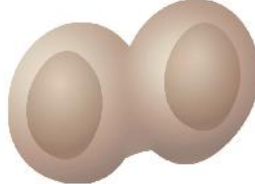
- Rozlu nienie chromatyny
- Pojawia si otoczka j drowa



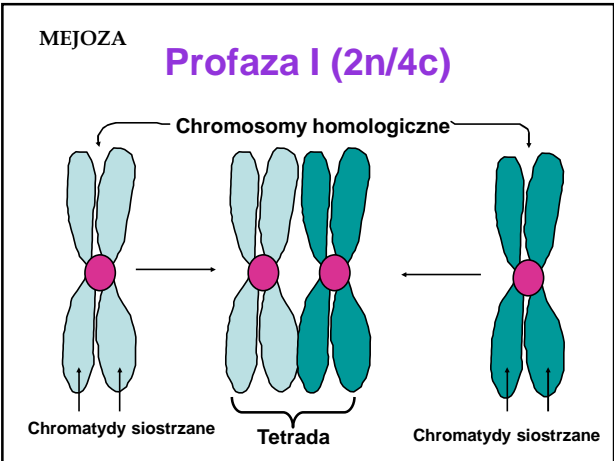
14

Cytokineza

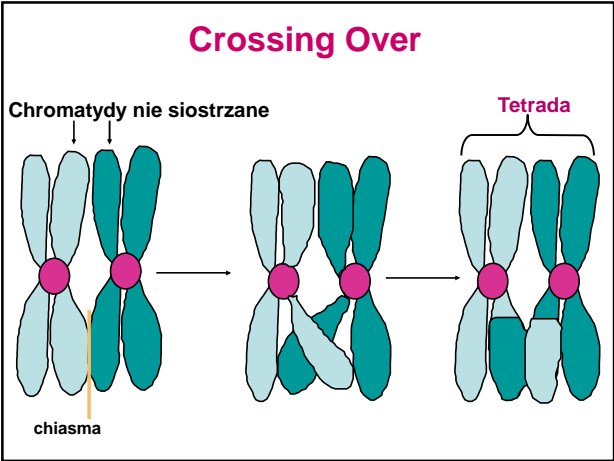
- Podział cytoplazmy



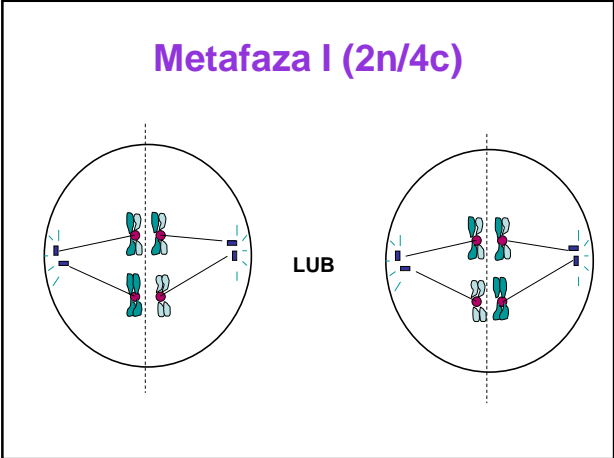
15



16

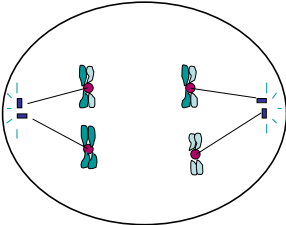


17



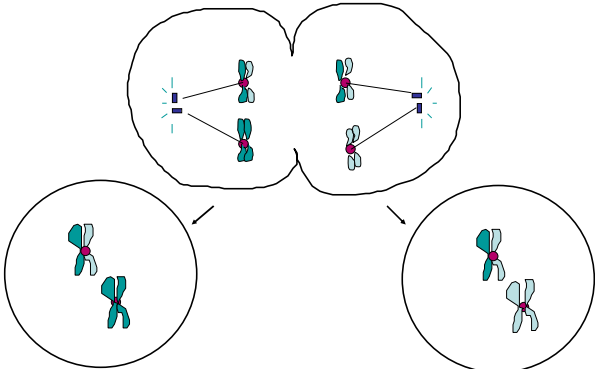
18

Anafaza I ($2n/4c$)



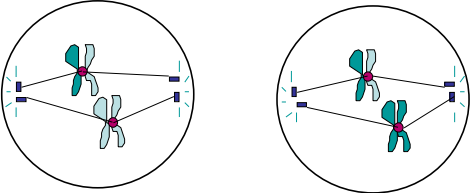
19

Telofaza I ($n/2c$)

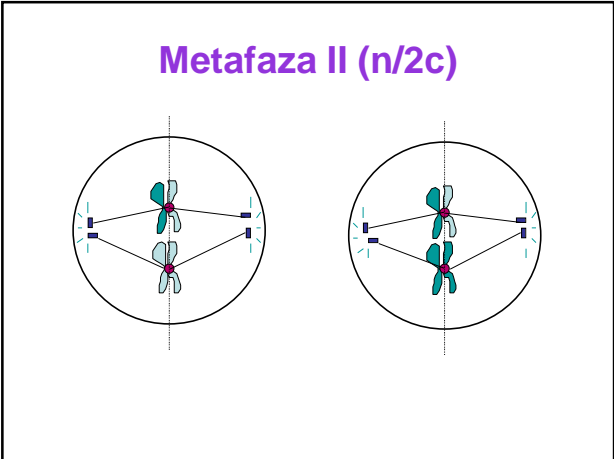


20

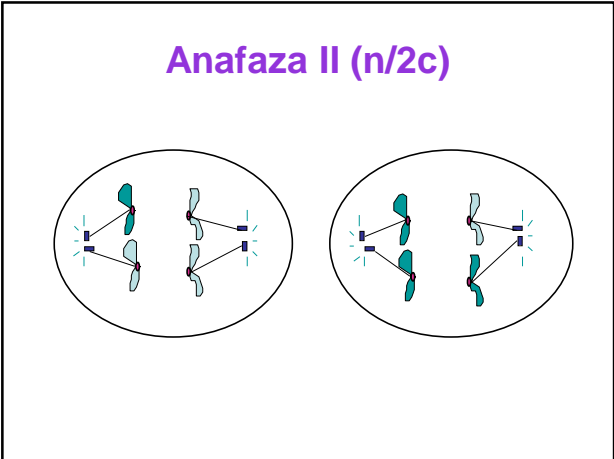
Profaza II ($n/2c$)



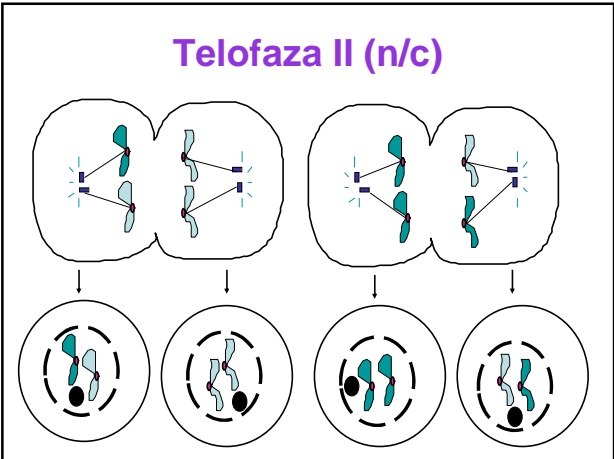
21



22



23



24
