



(AMITOSIS – MITOSIS – MEIOSIS)

...eam

PUSAT KONSULTASI STUDI DANIEL



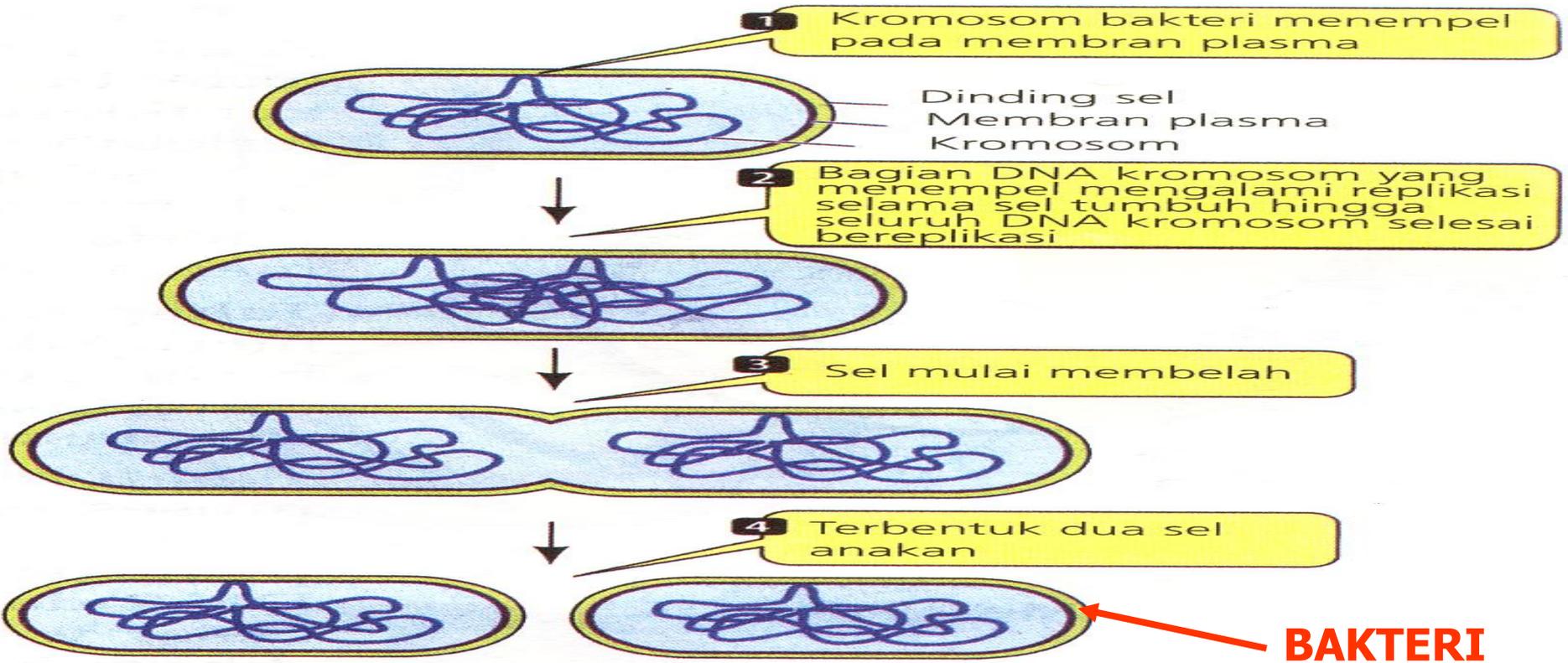
**Orang-orang yang sukses
berpikir jernih.**

**Orang-orang yang gagal
berpikir ragu-ragu.**

PEMBELAHAN AMITOSIS

(Pembelahan secara tidak langsung / Pembelahan Biner)

PEMBELAHAN BINER / AMITOSIS

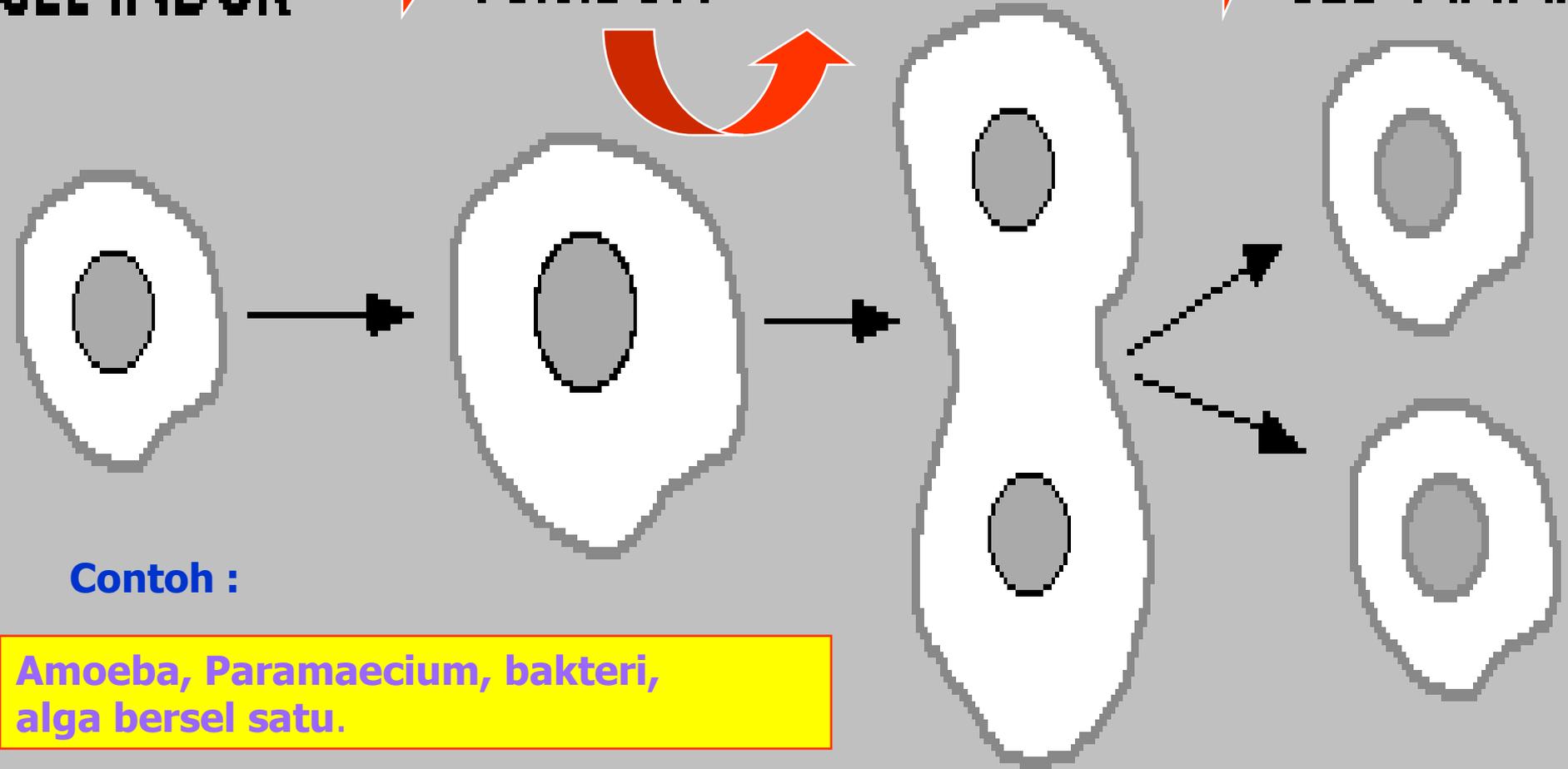


BAKTERI

Terbentuk membran plasma sehingga sitoplasma terpisah di antara dua sel tersebut

TAHAPAN PEMBELAHAN BINER / AMITOSIS

SEL INDUK → TUMBUH MEMBELAH → SEL ANAK



Contoh :

Amoeba, Paramecium, bakteri,
alga bersel satu.

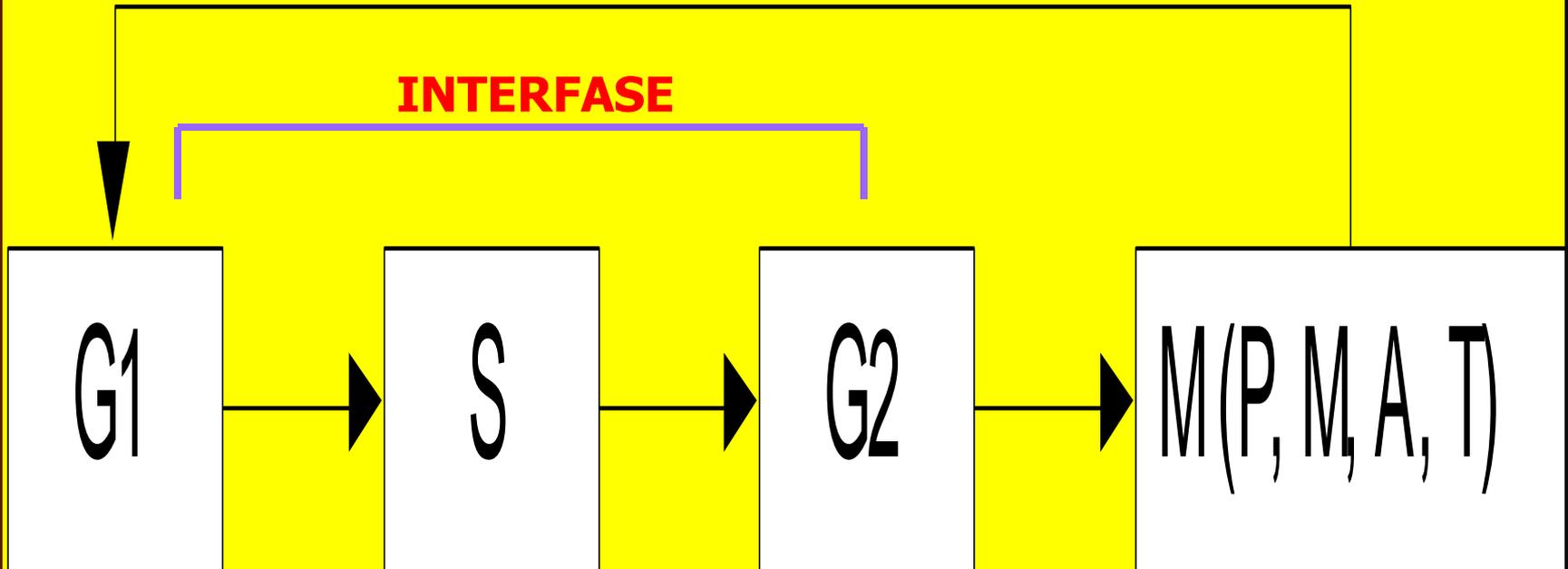
PEMBELAHAN TAK LANGSUNG

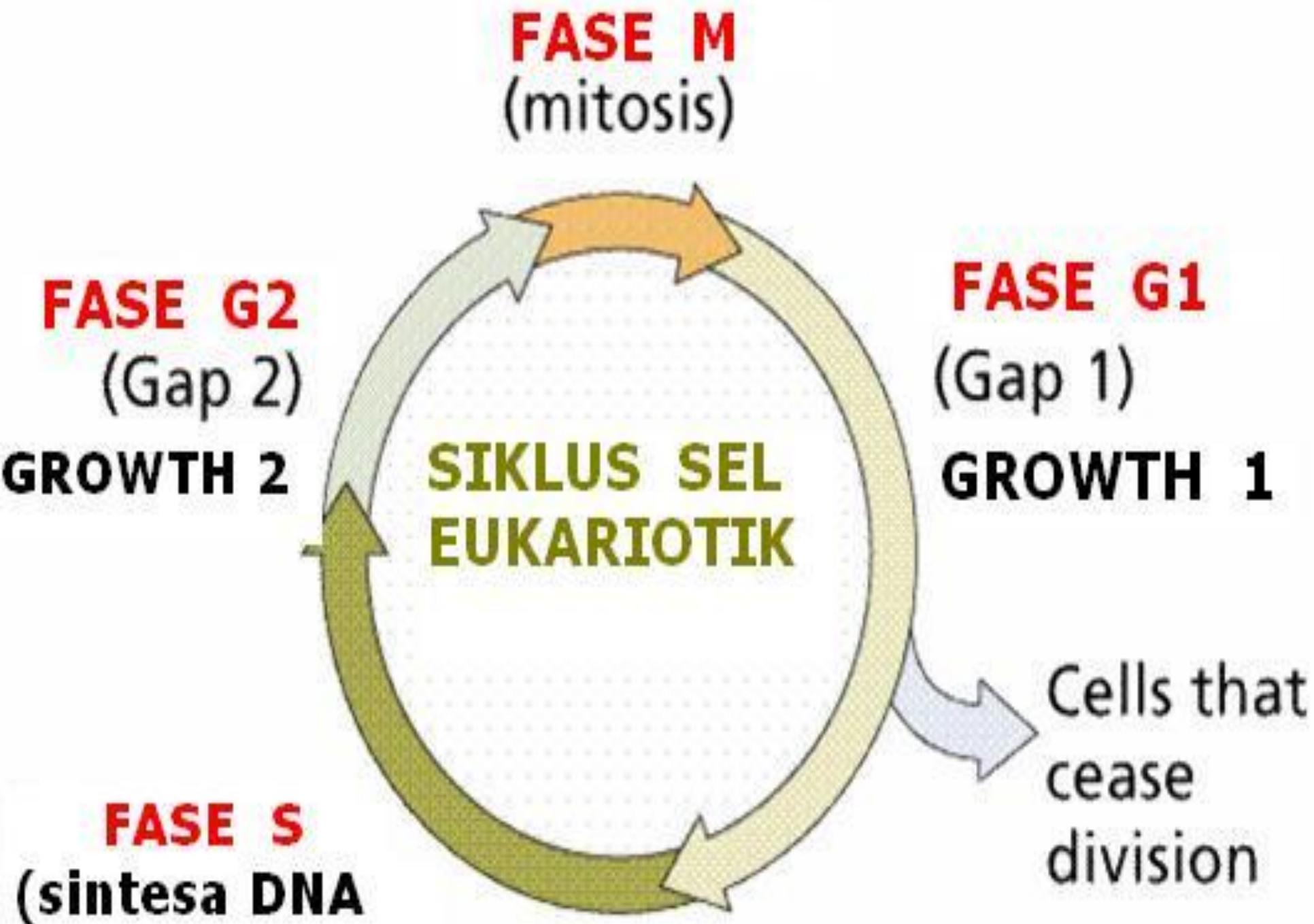
MITOSIS DAN MEIOSIS

INTERFASE

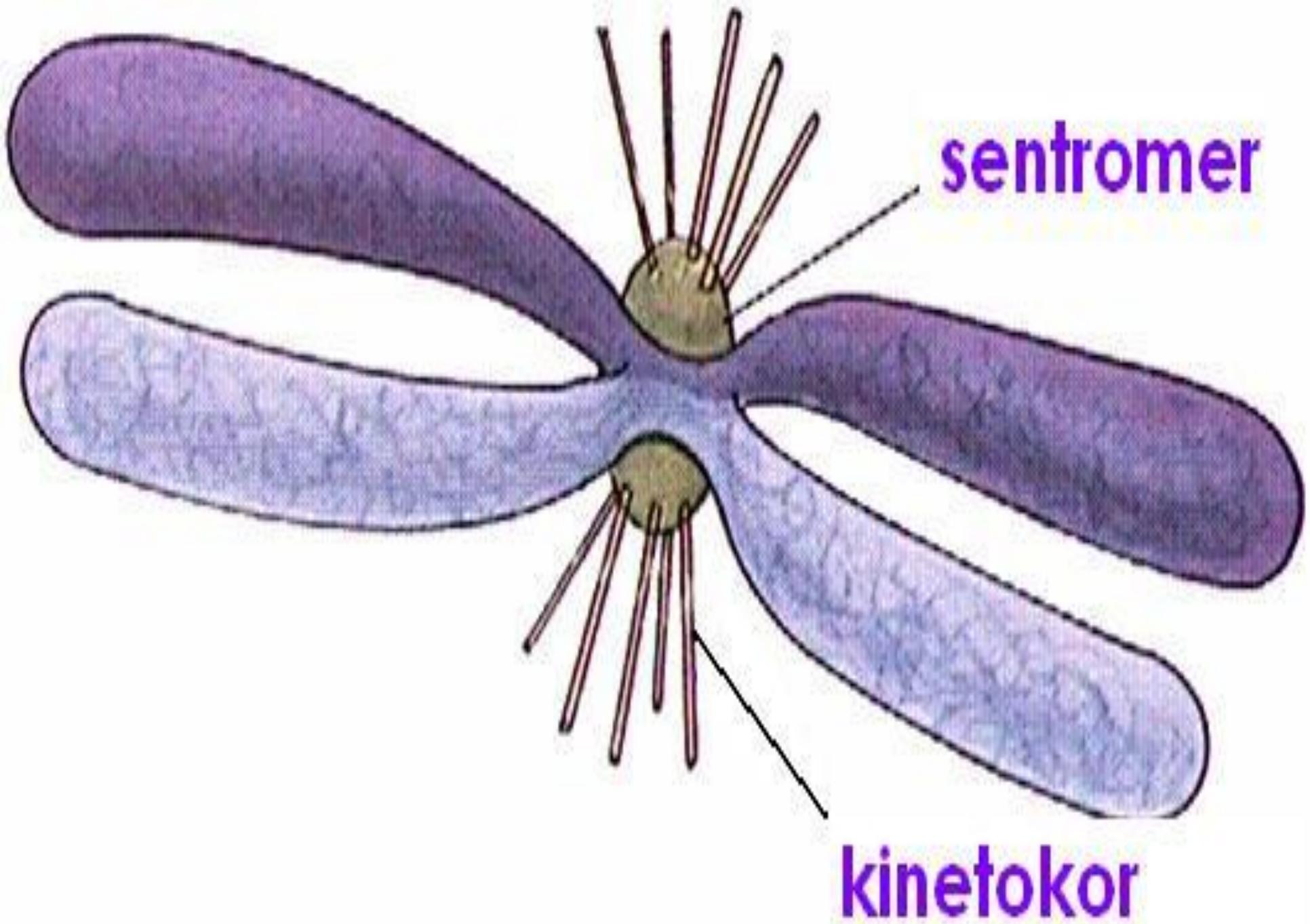
(FASE PERSIAPAN PEMBELAHAN)
(FASE ISTIRAHAT DARI PEMBELAHAN)

SIKLUS SEL





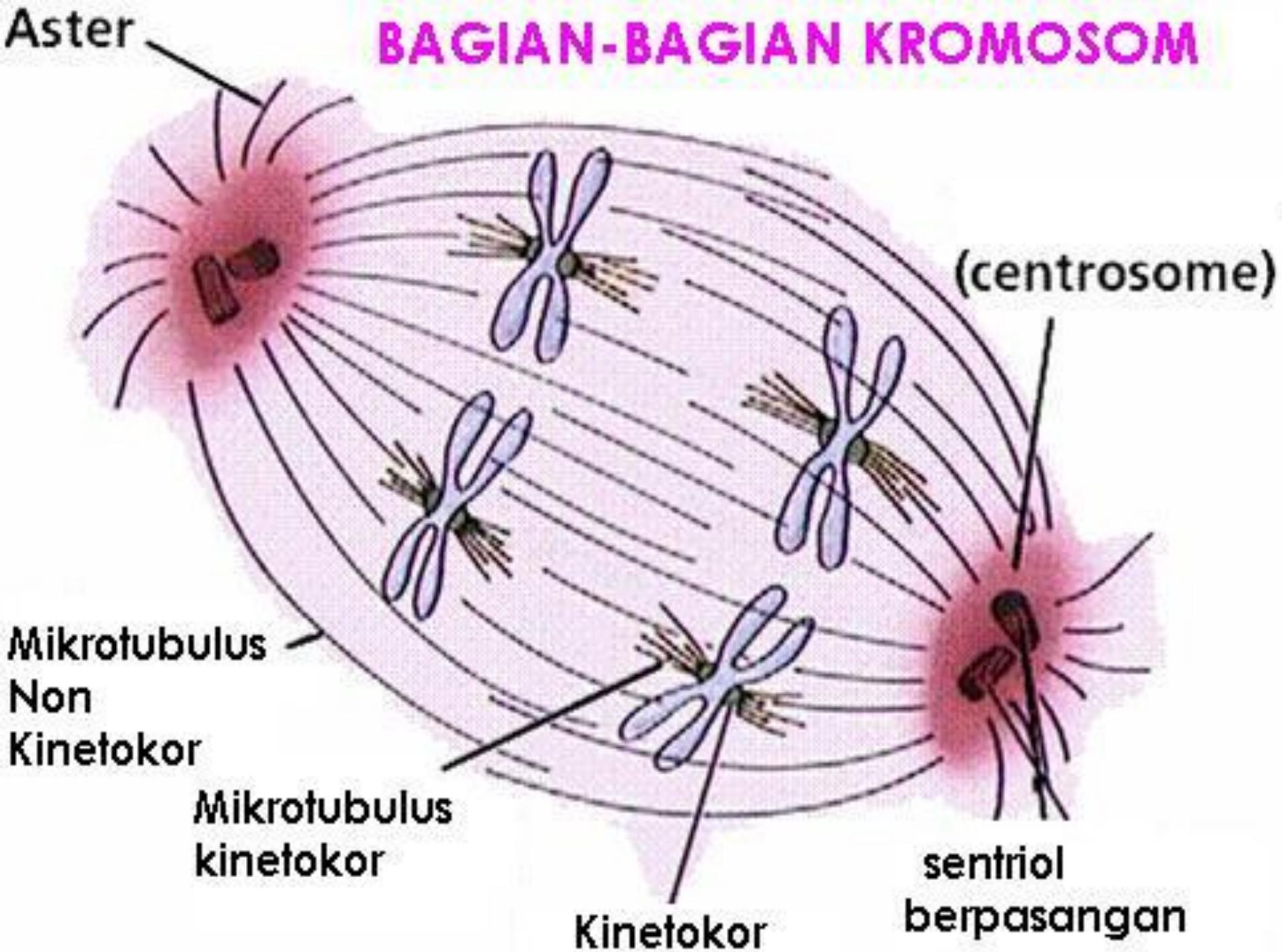
***KROMOSOM, BAGIAN-
BAGIANNYA DAN POSISINYA***



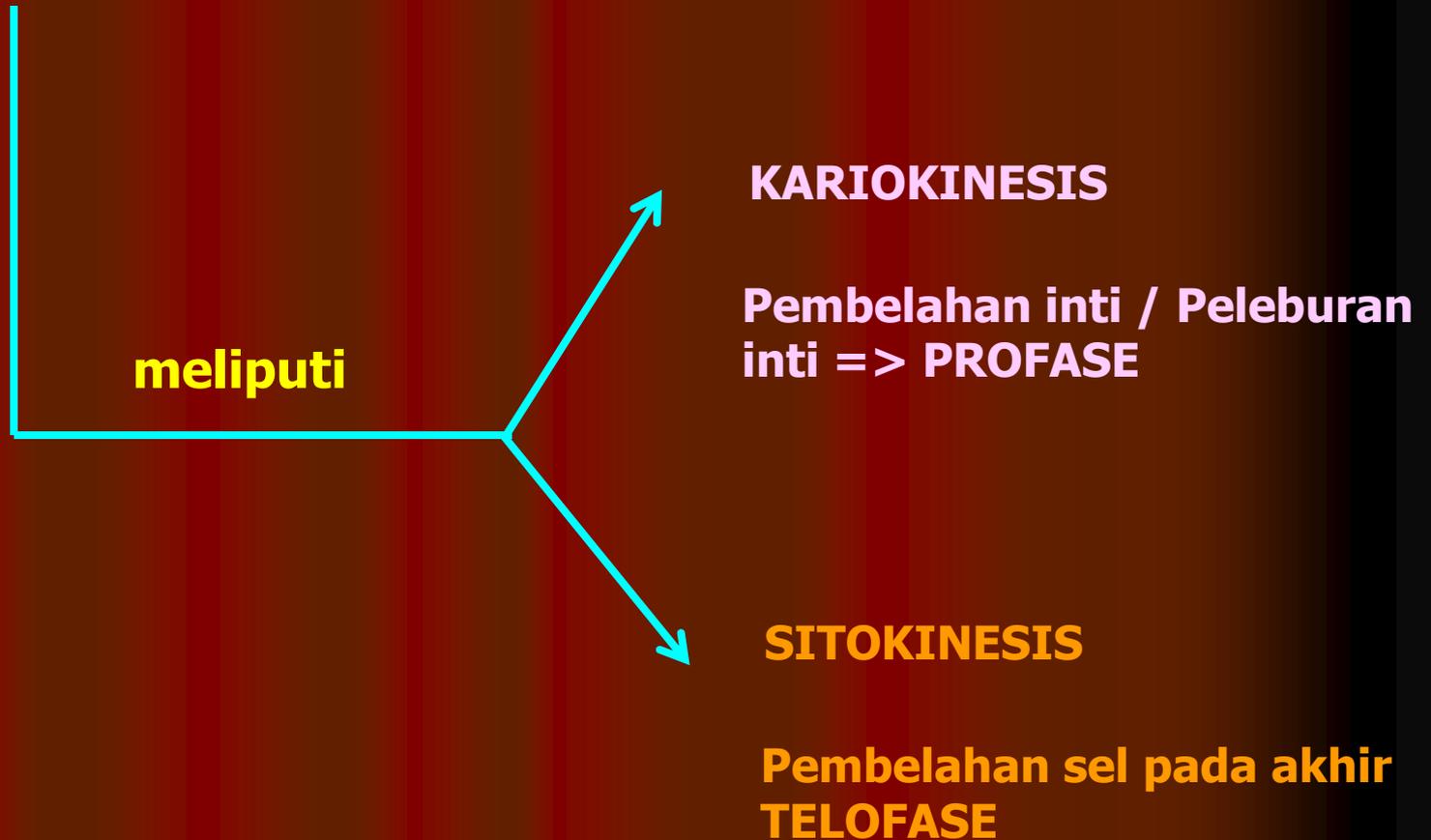
sentromer

kinetokor

BAGIAN-BAGIAN KROMOSOM



PEMBELAHAN MITOSIS



PEMBELAHAN MITOSIS

LIHAT CIRI-CIRI SETIAP FASE PADA BUKU HALAMAN 39

PROFASE

Terbentuk
kromosom



METAFASE

Kromosom
di ekuator

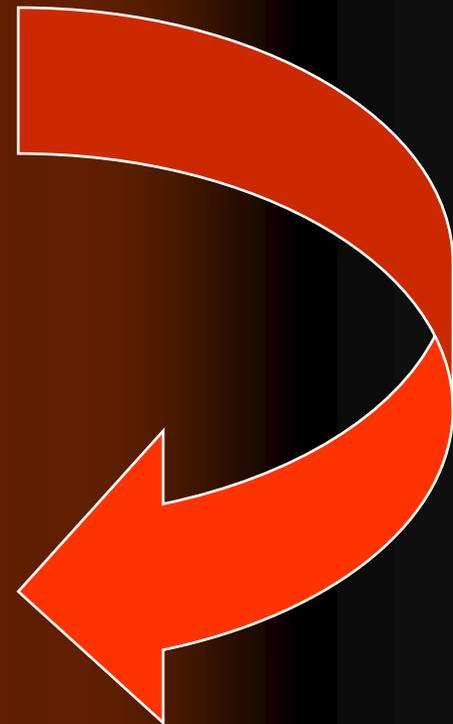


ANAFASE

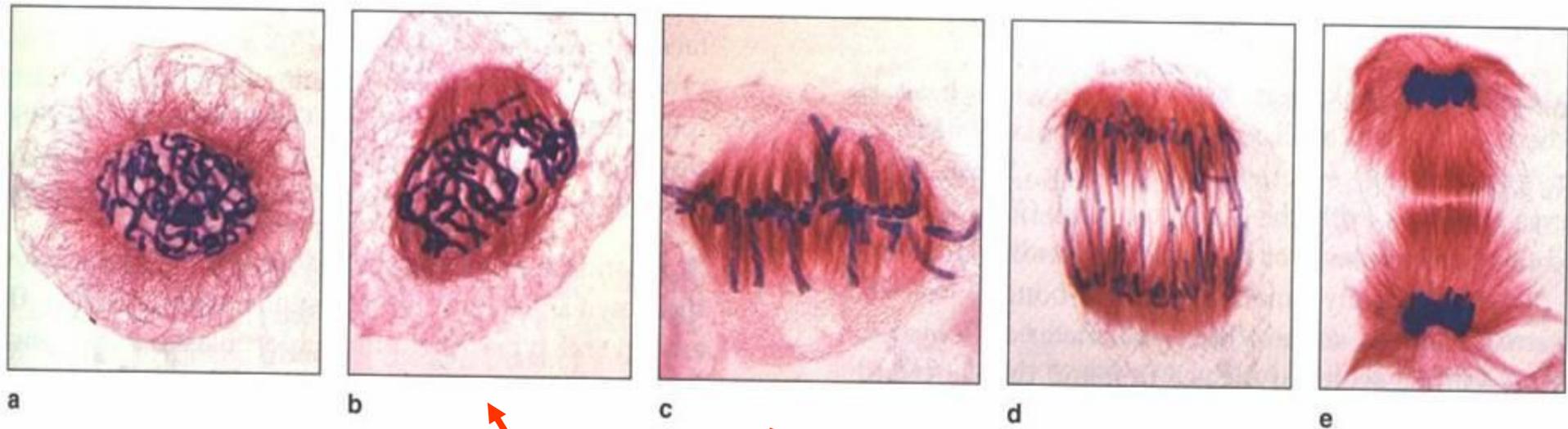
Kromosom
memisah
dan
bergerak
menuju
kutub
berlawanan

TELOFASE

Kromosom
tiba di kutub
berlawanan

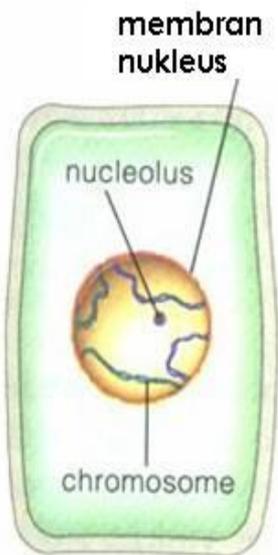


MITOSIS

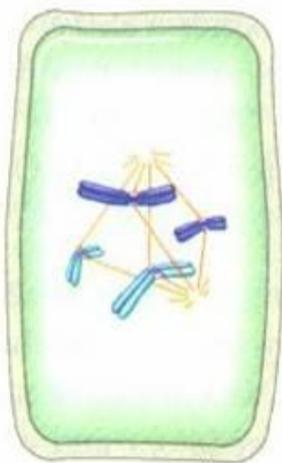


SEL HEWAN

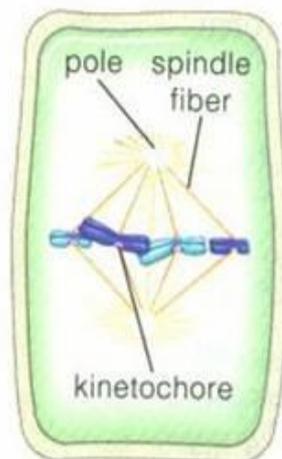
SEL TUMBUHAN



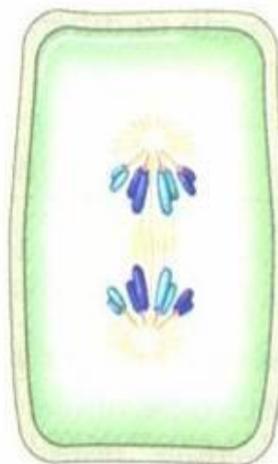
PROFASE AWAL



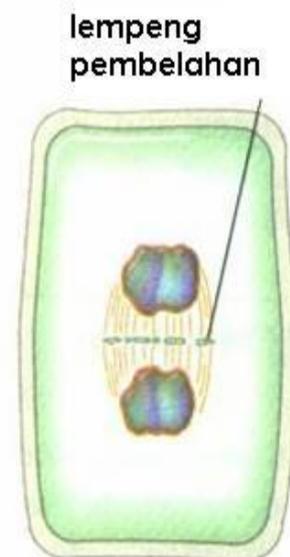
PROFASE AKHIR



METAFASE



ANAFASE



TELOFASE

Interphase

Interphase-prophase

membran inti

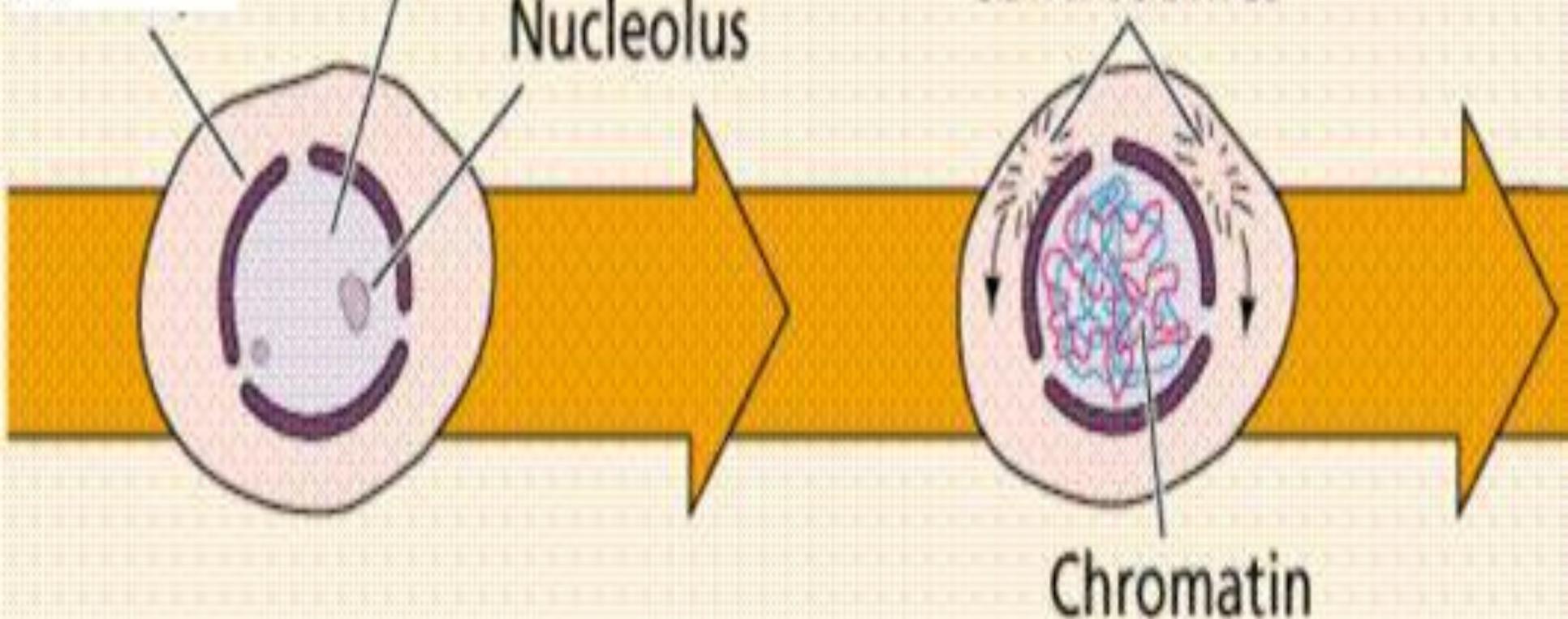
Nucleus

Nucleolus

peralihan

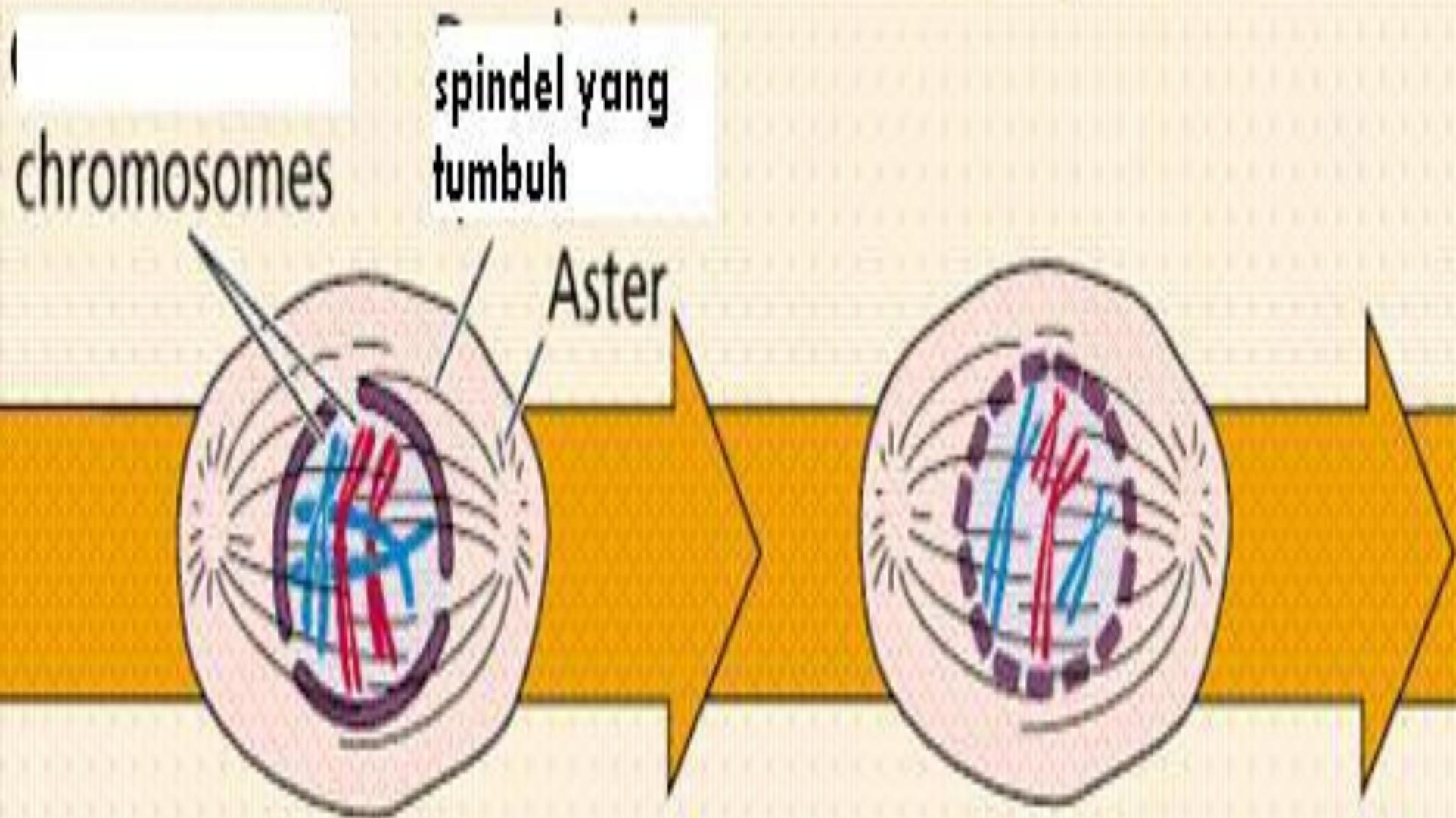
Centrosomes

Chromatin



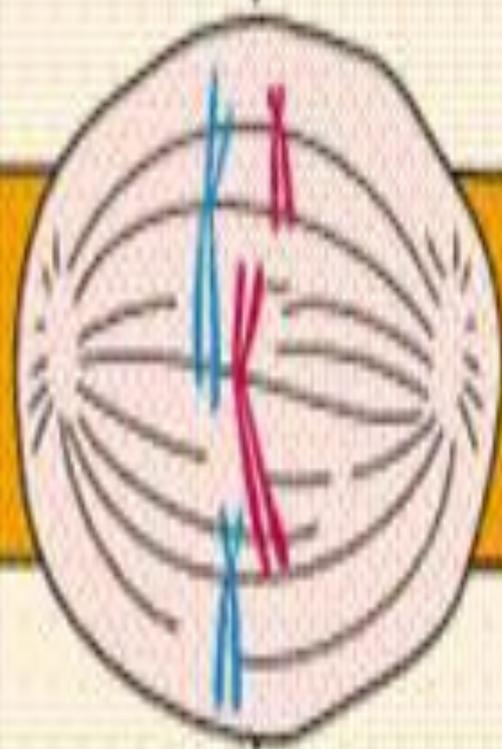
Prophase

Prometaphase



Metaphase

Ekuator atau
Dataran metafase

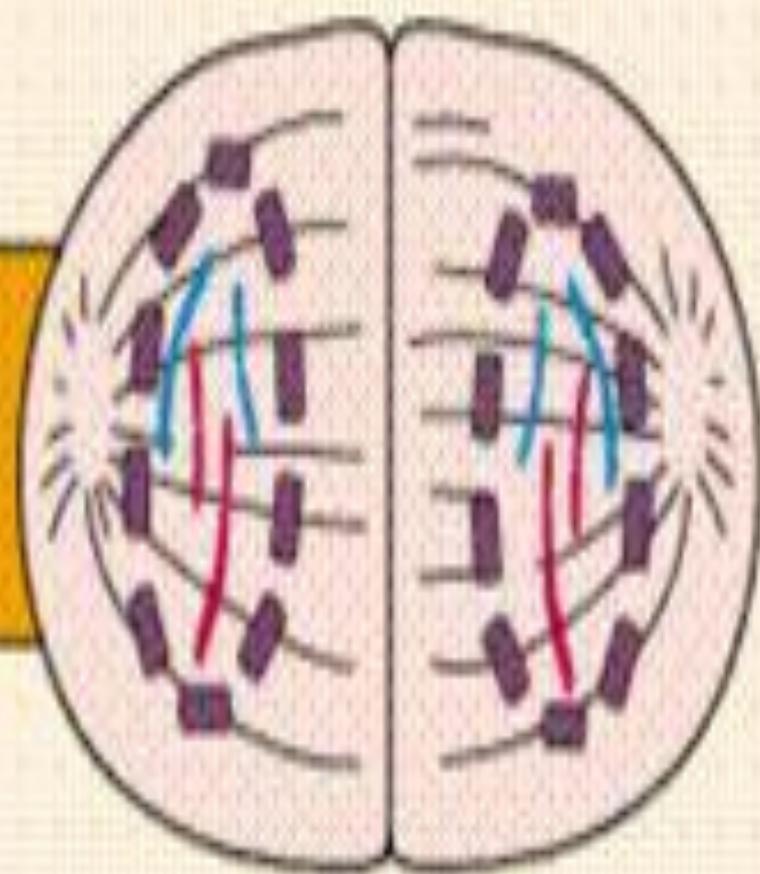


Anaphase

chromosomes

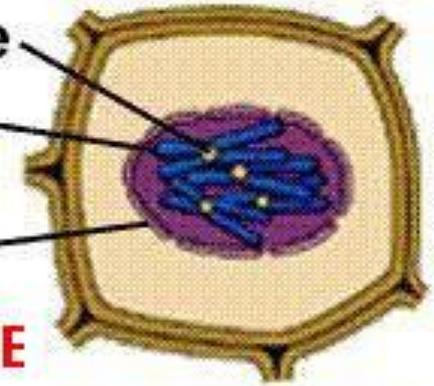


Telophase



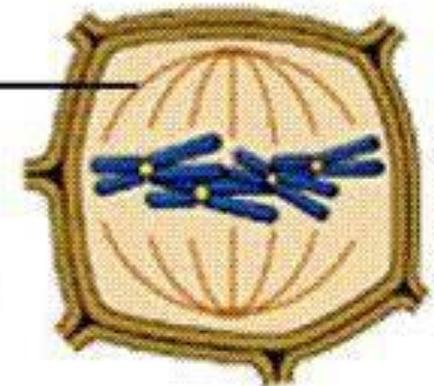
PEMBELAHAN MITOSIS DAN SITOKINESIS

Centromere
Chromatid
membran inti



A. PROFASE

spindel /
benang
gelendong

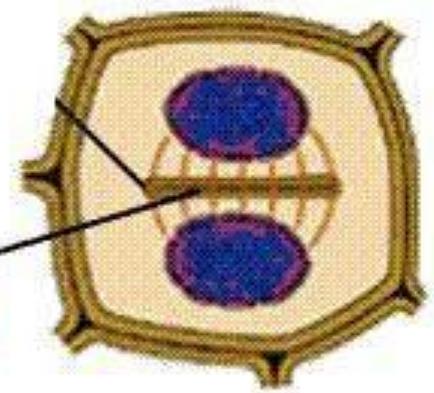


B. METAFASE



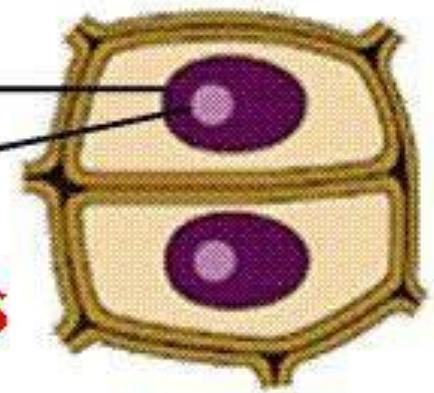
C. ANAFASE

penebalan
sitoplasma



D. TELOFASE

Nucleus
Nucleolus



E. SITOKINESIS

SEL SUDAH MEMBELAH DUA

SEL MEMBELAH MITOSIS DALAM PENGAMATAN DI BAWAH MIKROSKOP



PEMBELAHAN MEIOSIS

PEMBELAHAN MEIOSIS I

INTERFASE



PROFASE -1



METAFASE - 1



ANAFASE-1



TELOFASE-1

PEMBELAHAN MEIOSIS - 2

PROFASE-2



METAFASE-2



ANAFASE-2

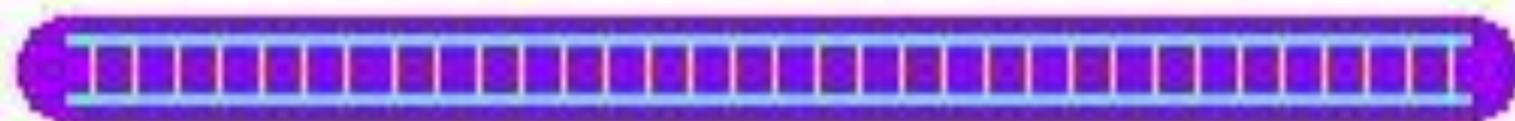


TELOFASE-2

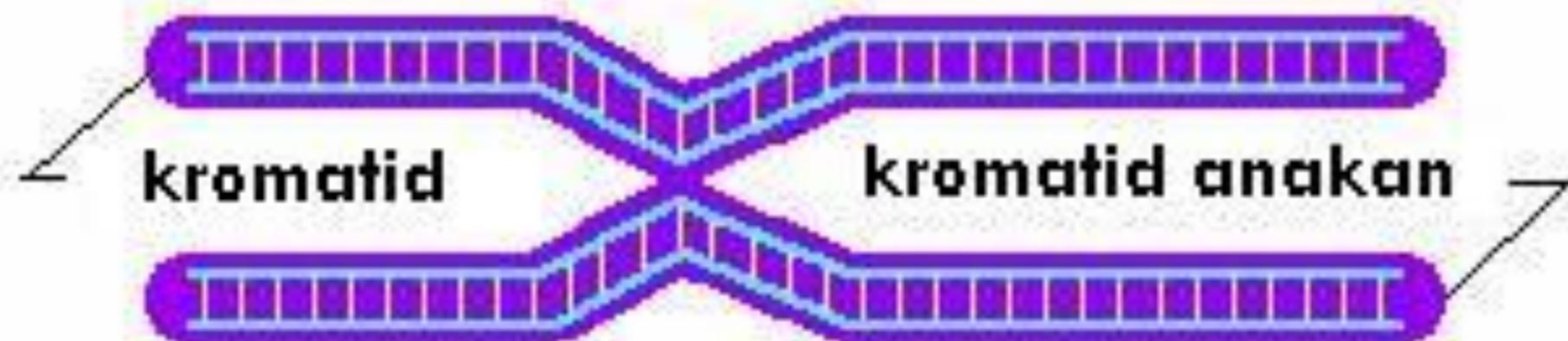
PROFASE-1



sebuah kromosom yang **BELUM**
berduplikasi/digandakan

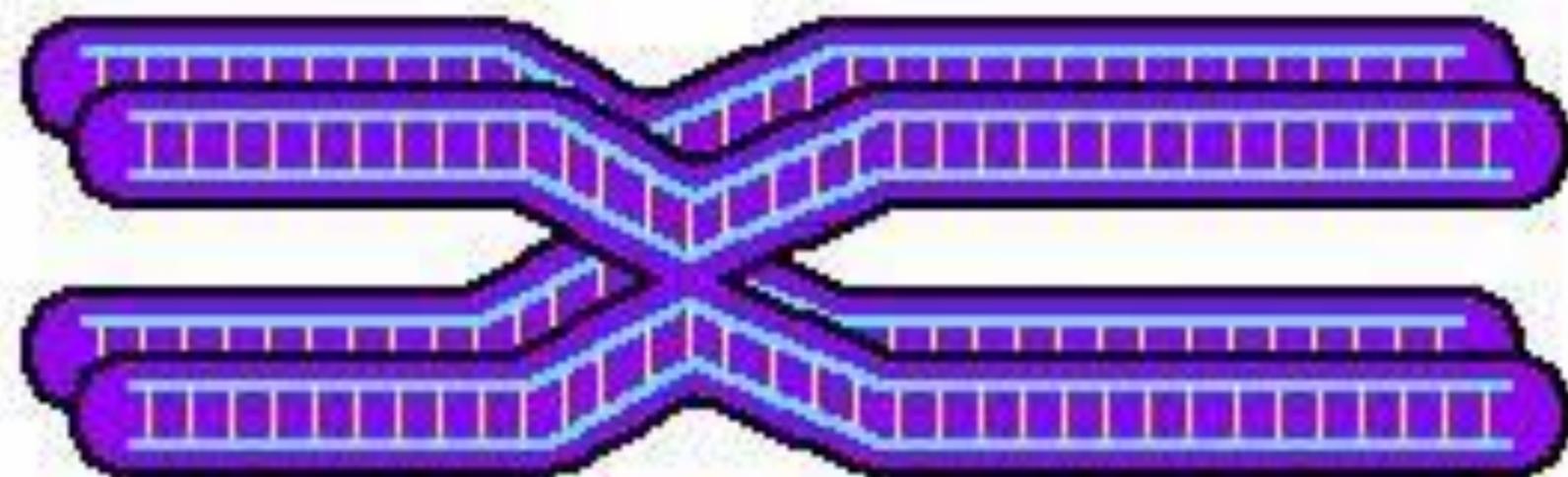


sebuah kromosom yang **TELAH**
berduplikasi / digandakan

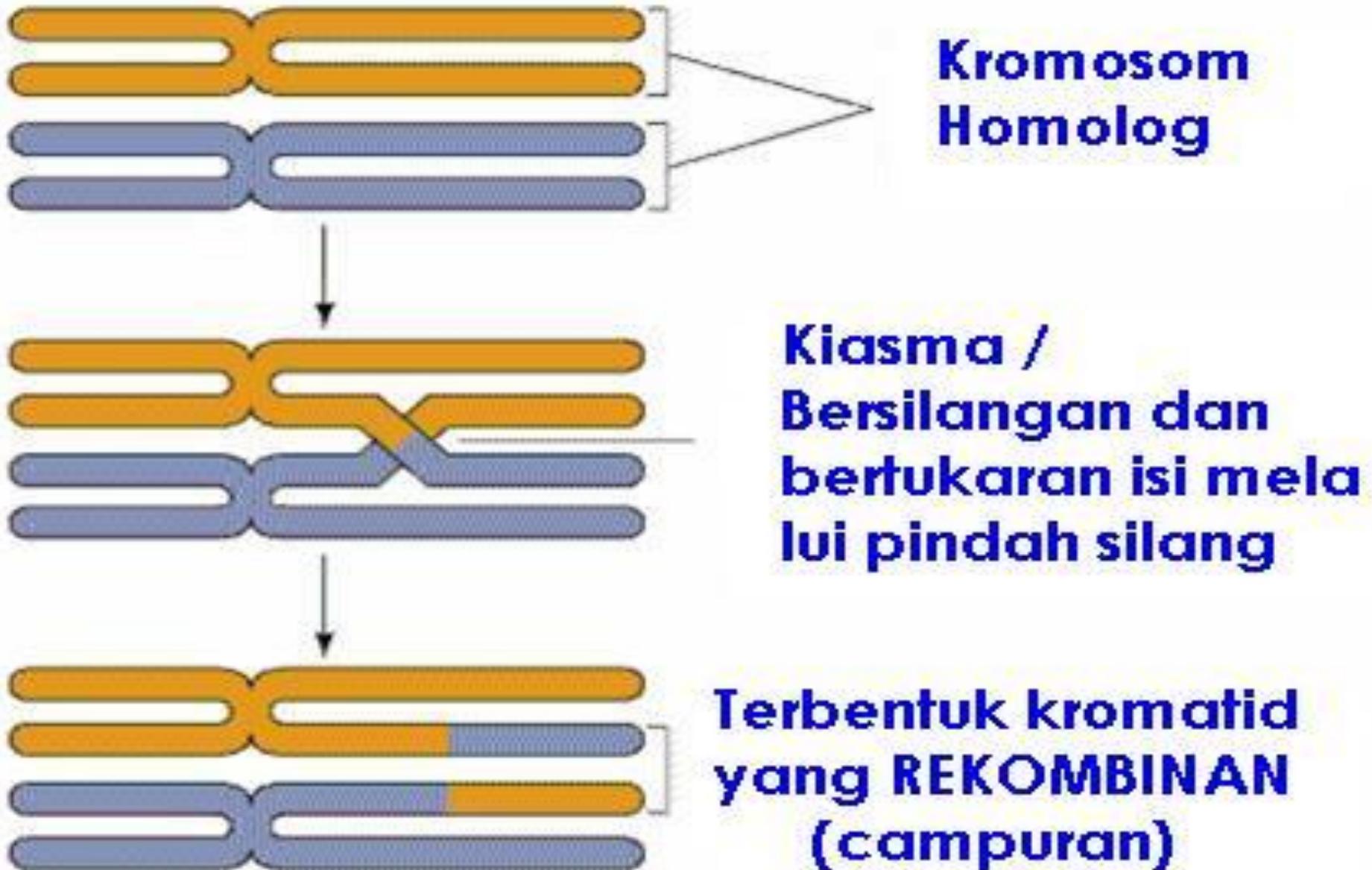


Kromosom yang BEntuk, BEsar dan
Komposisinya sama (BE BE K)

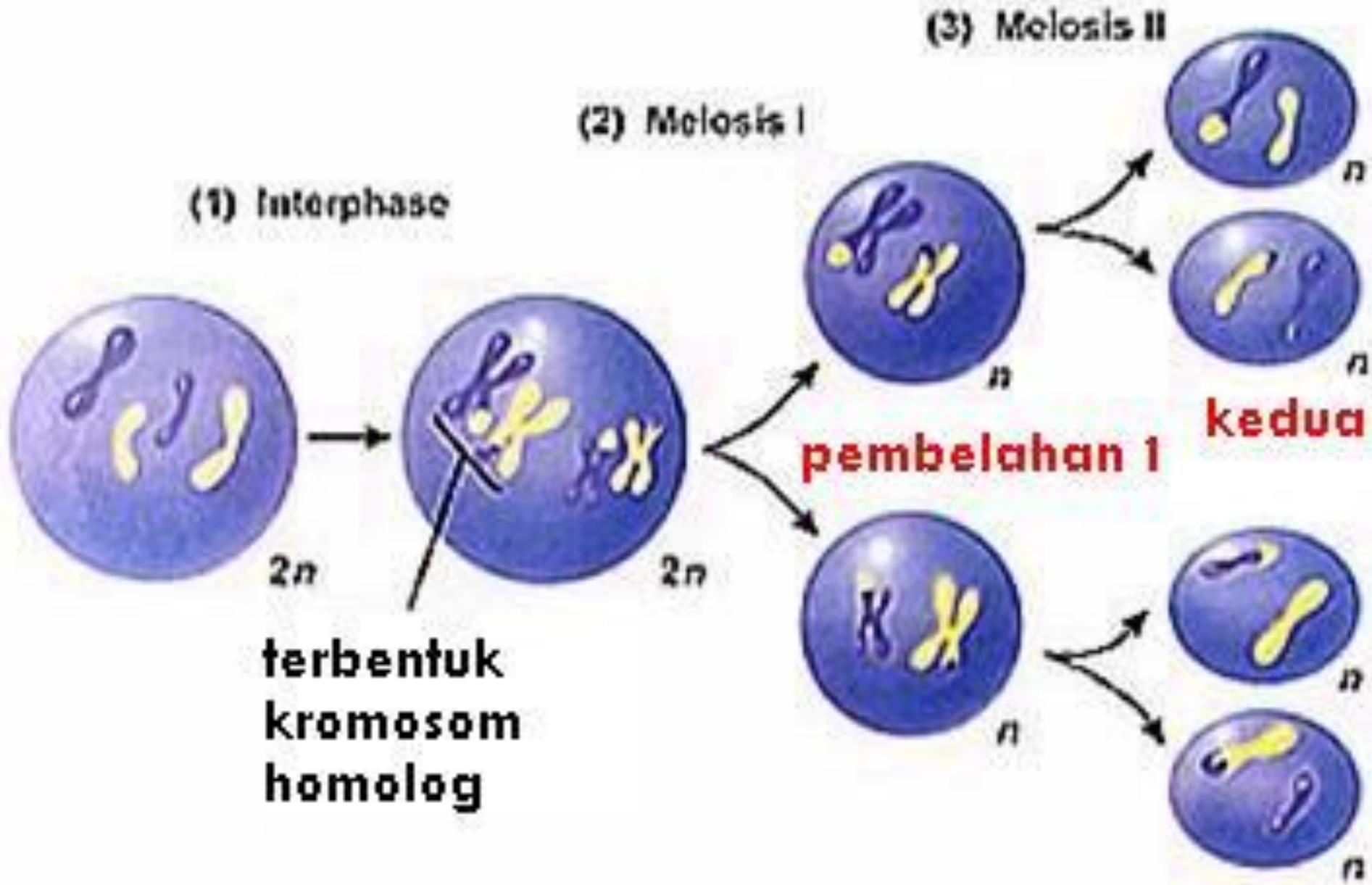
Kromosom Homolog



Cross over/pindah silang pada profase-1



MEIOSIS



Meiosis I

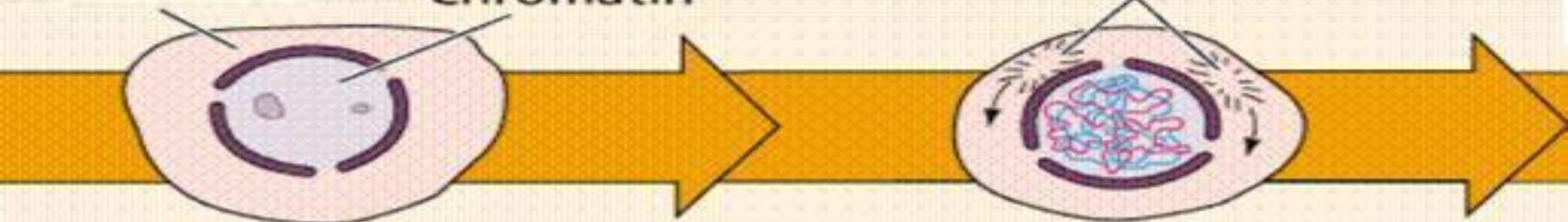
awal prophase I

lanjutan prophase I

membran inti

Chromatin

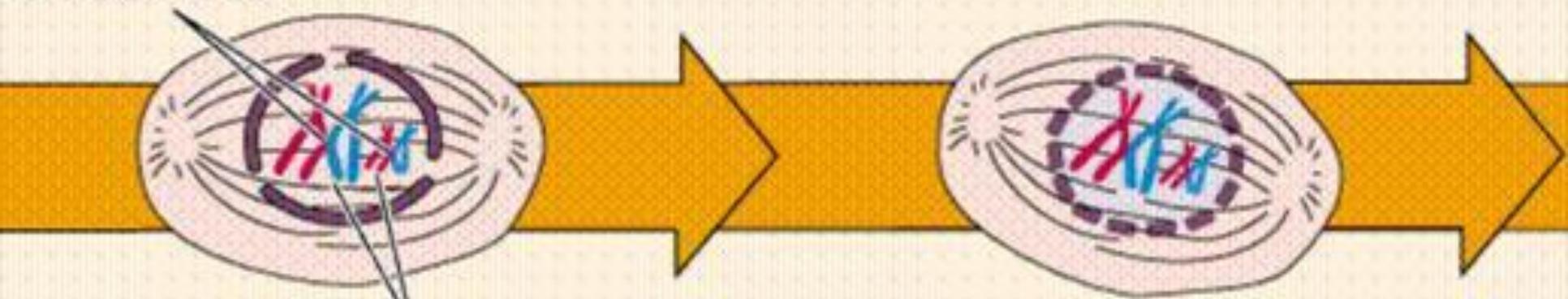
Centrosomes



lanjutan prophase I

Akhir prophase I

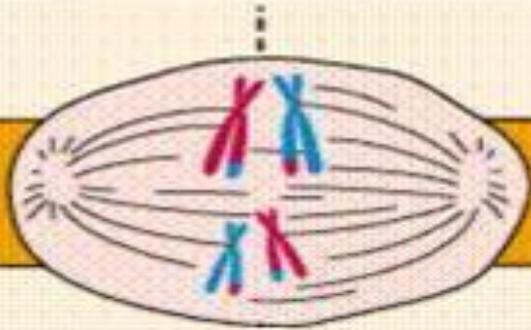
Chiasmata



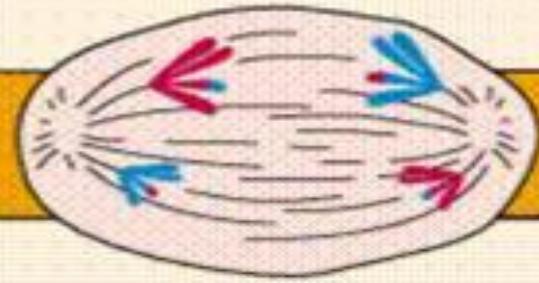
pasangan kromosom homolog

Metaphase I

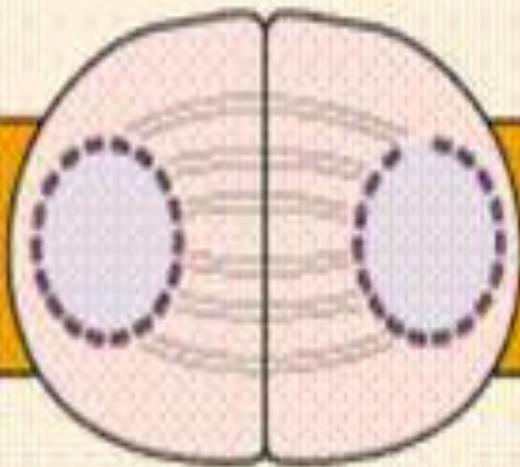
bidang ekuator



Anaphase I

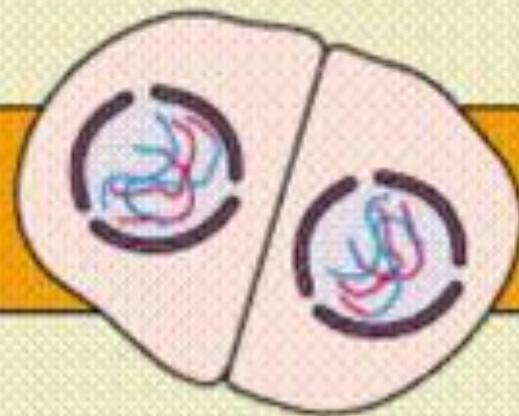


Telophase I



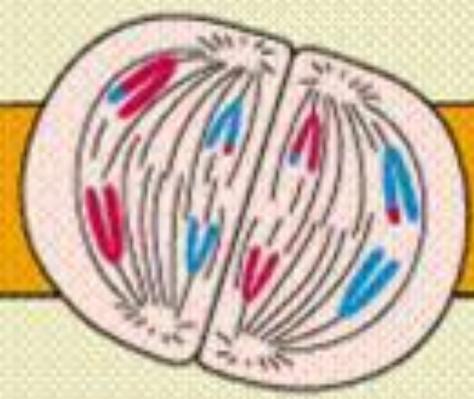
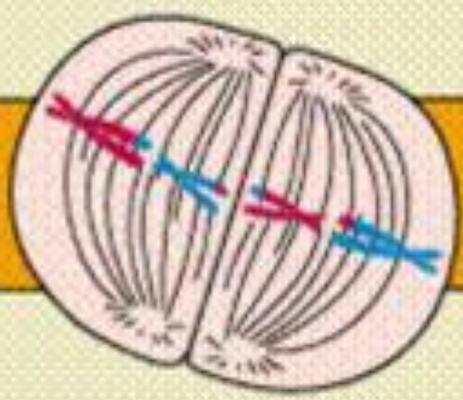
Meiosis II

Prophase II



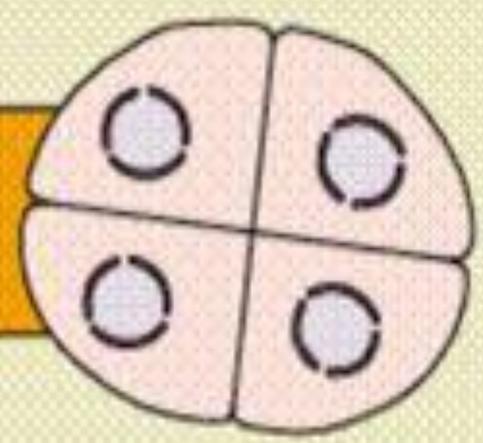
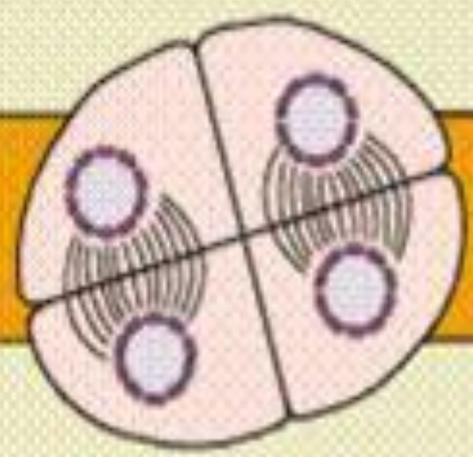
Metaphase II

Anaphase II



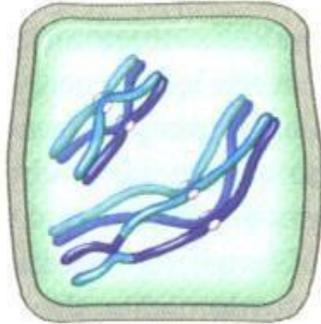
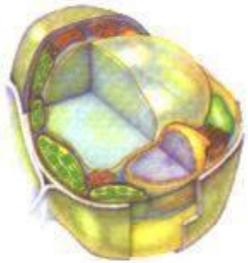
Telophase II

Hasil proses Meiosis

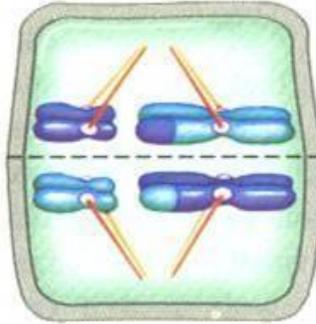


MEIOSIS PADA SEL TUMBUHAN

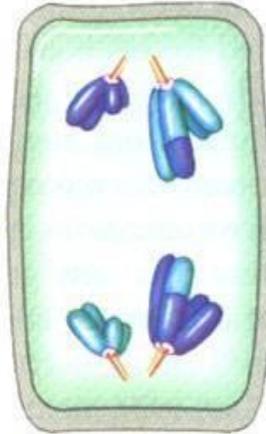
MEIOSIS - 1



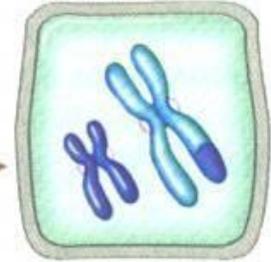
PROFASE 1



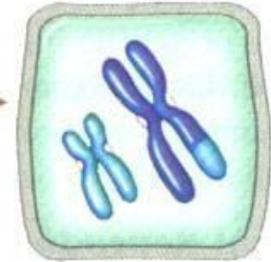
METAFASE 1



ANAFASE 1

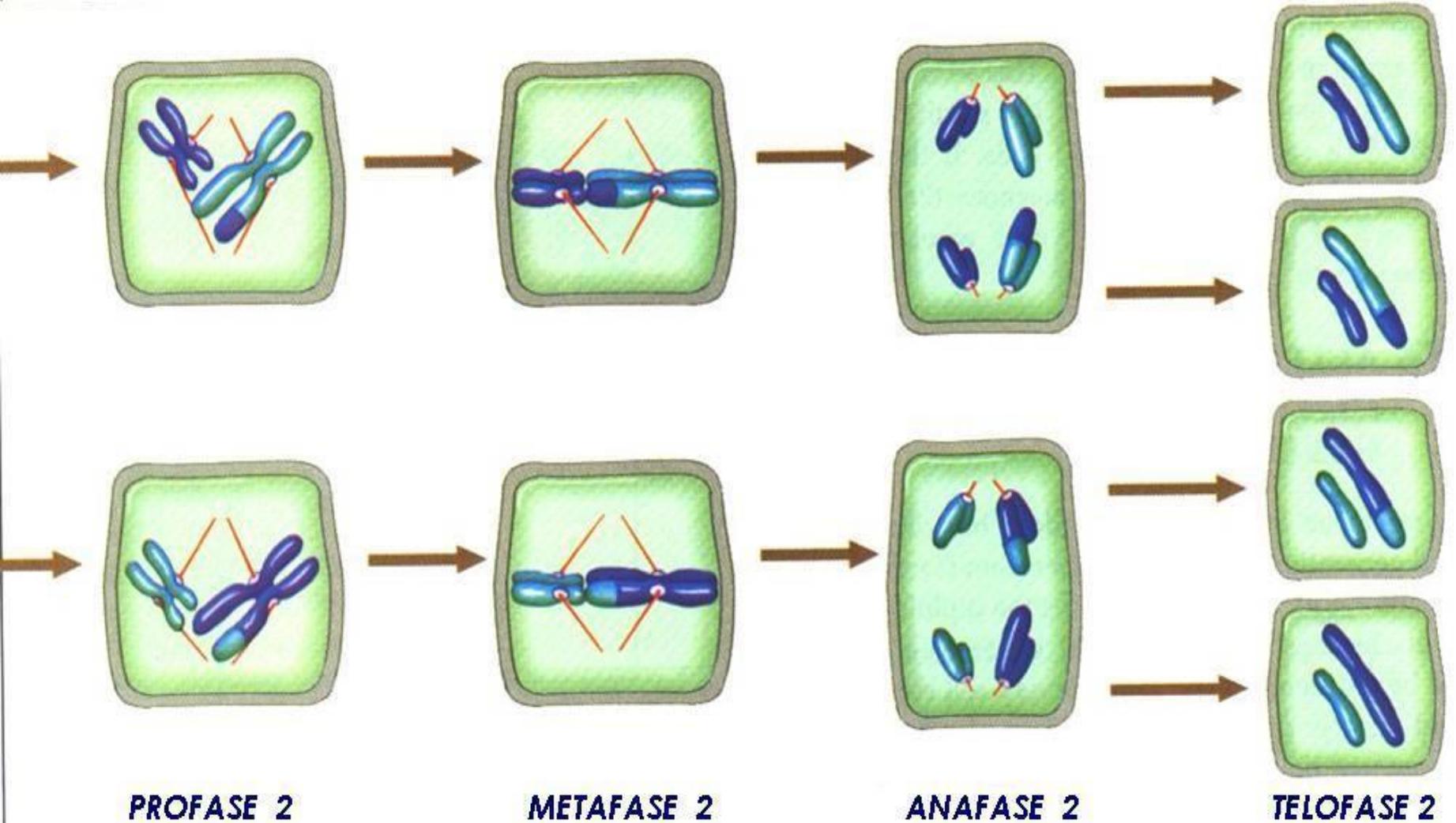


TELOFASE 1

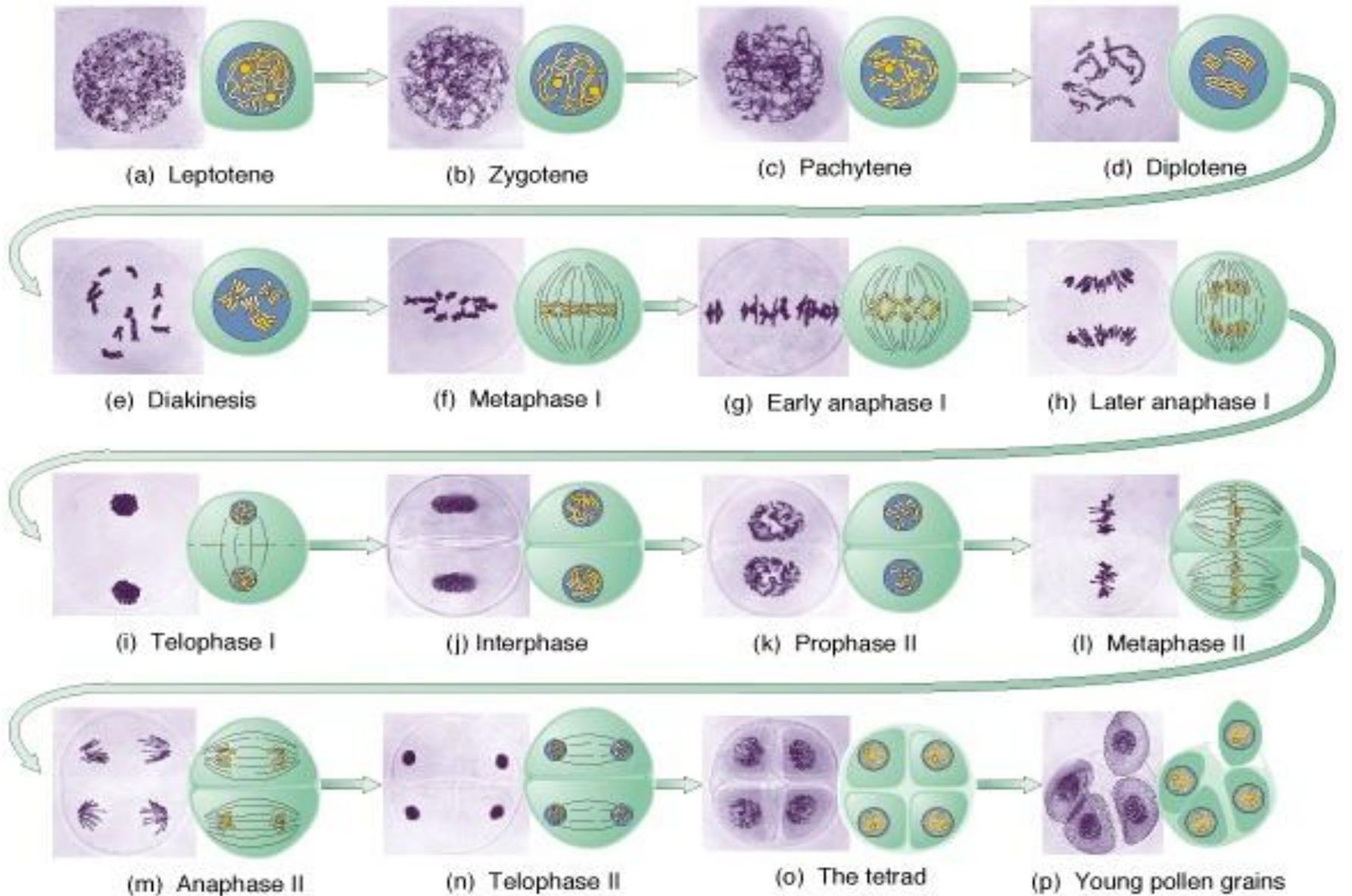


Sebuah sel yang diploid pada keadaan interfase, yang akan dilanjutkan dengan pembelahan inti (KARIOKINESIS)

MEIOSIS-2



PEMBELAHAN MEIOSIS LENGKAP



MEIOSIS

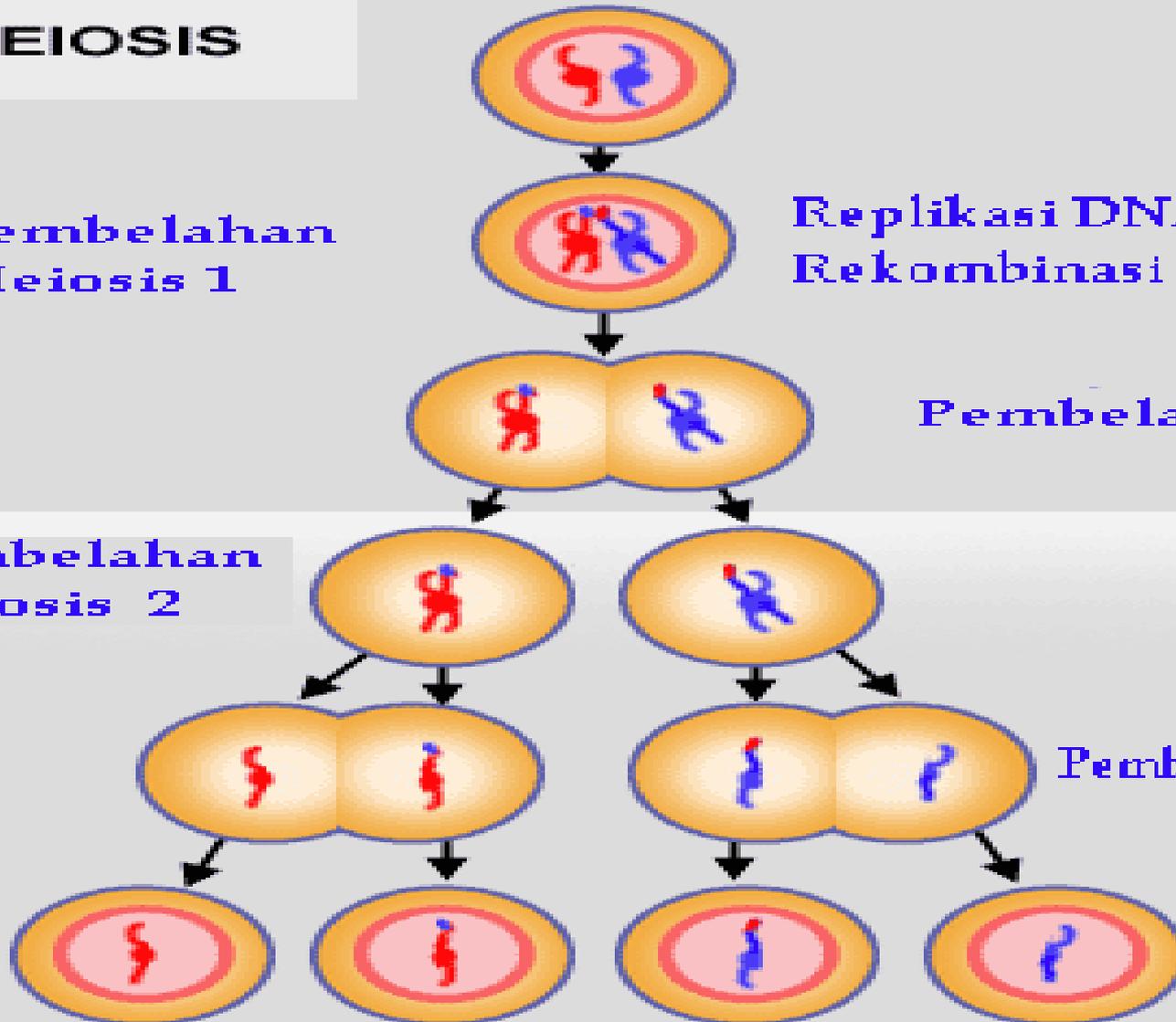
Pembelahan Meiosis 1

Replikasi DNA dan Rekombinasi

Pembelahan 1

Pembelahan Meiosis 2

Pembelahan 2



Tabel Amitosis, Mitosis, dan Meiosis

NO	FAKTOR	AMITOSIS	MITOSIS	MEIOSIS
1.	Tempat pembelahan	uniseluler	sel tubuh	Kelenjar kelamin (gonad)
2.	Proses pembelahan	langsung (tanpa fase)	tidak langsung (ada fase)	tidak langsung (ada fase)
3.	Hasil pembelahan	2 sel anak	2 sel anak	4 sel anak
4.	Sifat sel anak dibanding sel induk	sama	sama	tidak sama
5.	Jumlah kromosom sel anak dibanding sel induk	sama	sama	tidak sama (reduksi)

LATIHAN TAMBAHAN MODUL 7

Jodohkanlah pernyataan dalam kolom I dengan istilah pada kolom II

I

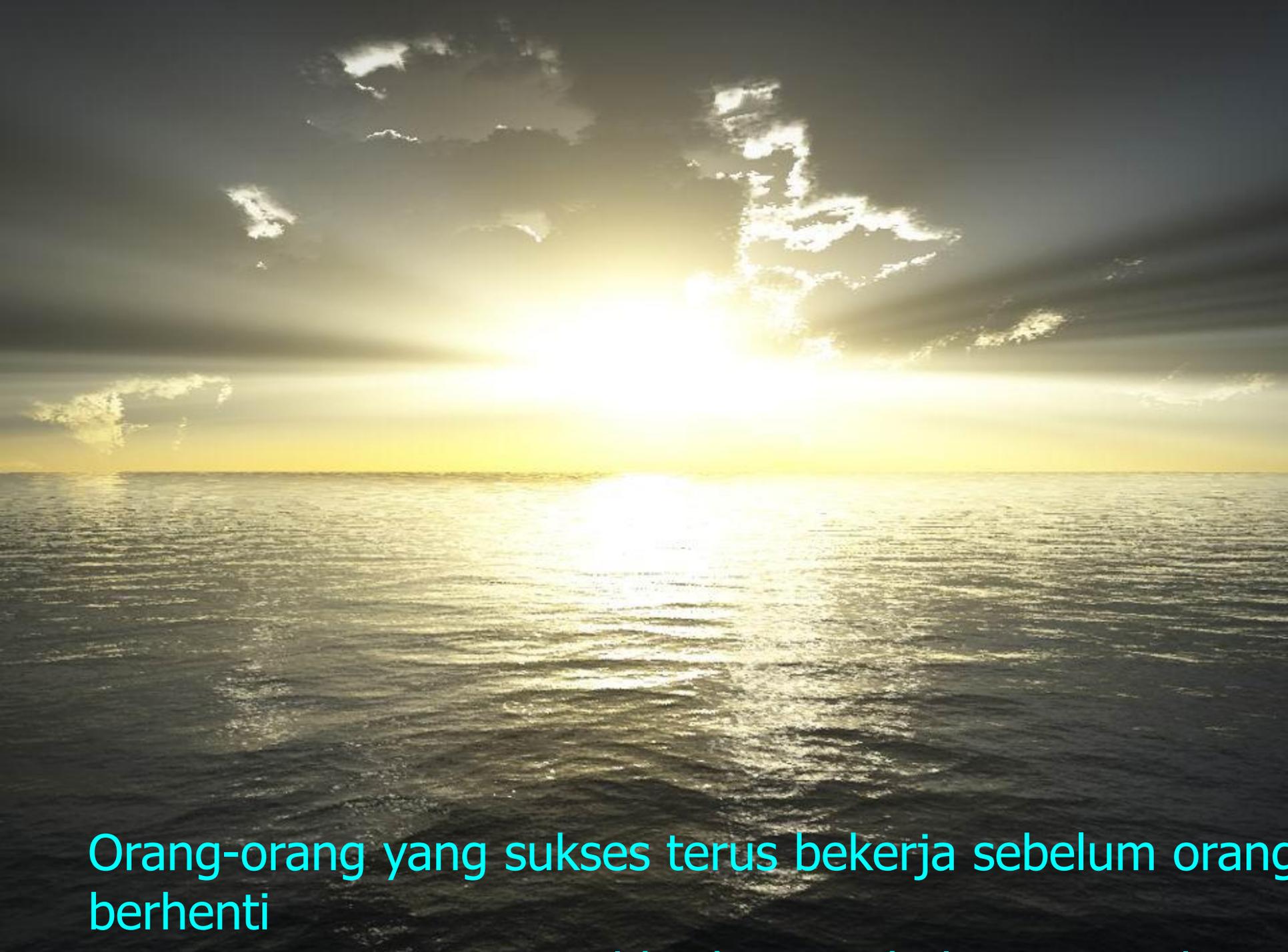
1. Sel membelah **J**
2. Duplikasi kromosom **E**
3. Memisahinya sentriol **E**
4. Pembentukan sel gamet **D**
5. Fase setelah replikasi DNA **G**
6. Kromosom mulai dapat terindra **E, B**
7. Selubung nukleus mulai hilang atau tidak dapat terindra **E**
8. Selubung nukleus mulai terindra kembali **H**
9. Menata diri di dataran ekuator **B**
10. Replikasi kloroplas **F**

II

- a. Fase S
- b. Metafase
- c. Anafase
- d. Gametogenesis
- e. Profase
- f. Fase G1
- g. Fase G2
- h. Telofase
- i. Interfase
- j. Sitokinesis

RESUME





Orang-orang yang sukses terus bekerja sebelum orang
berhenti