

Núcleo e divisão celular

Estrutura do núcleo celular

Estudo dos cromossomos

Idiogramas/ alterações de cariótipo

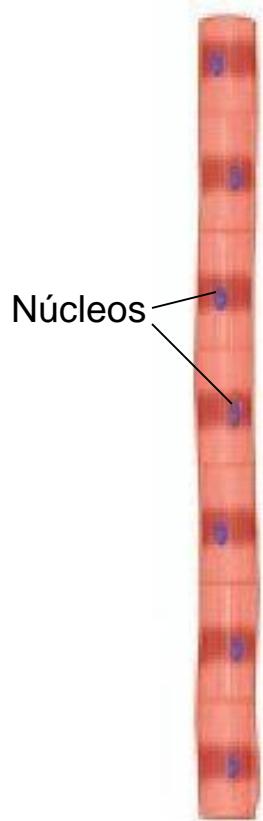
O ciclo celular

Mitose

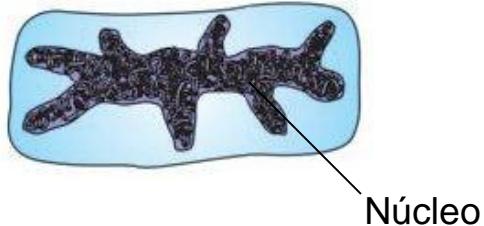
Meiose

TIPOS DE NÚCLEO

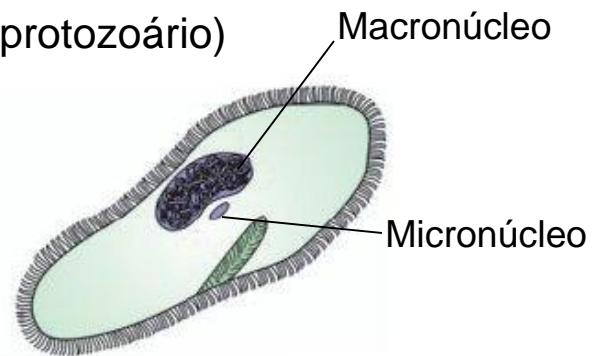
Fibra Muscular
Estriada Humana



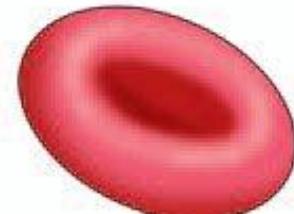
Célula da glândula da
seda da mariposa



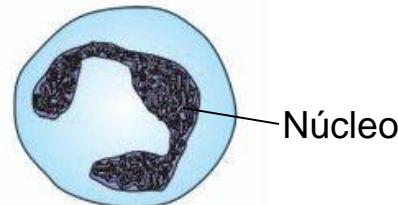
Paramécio
(protozoário)



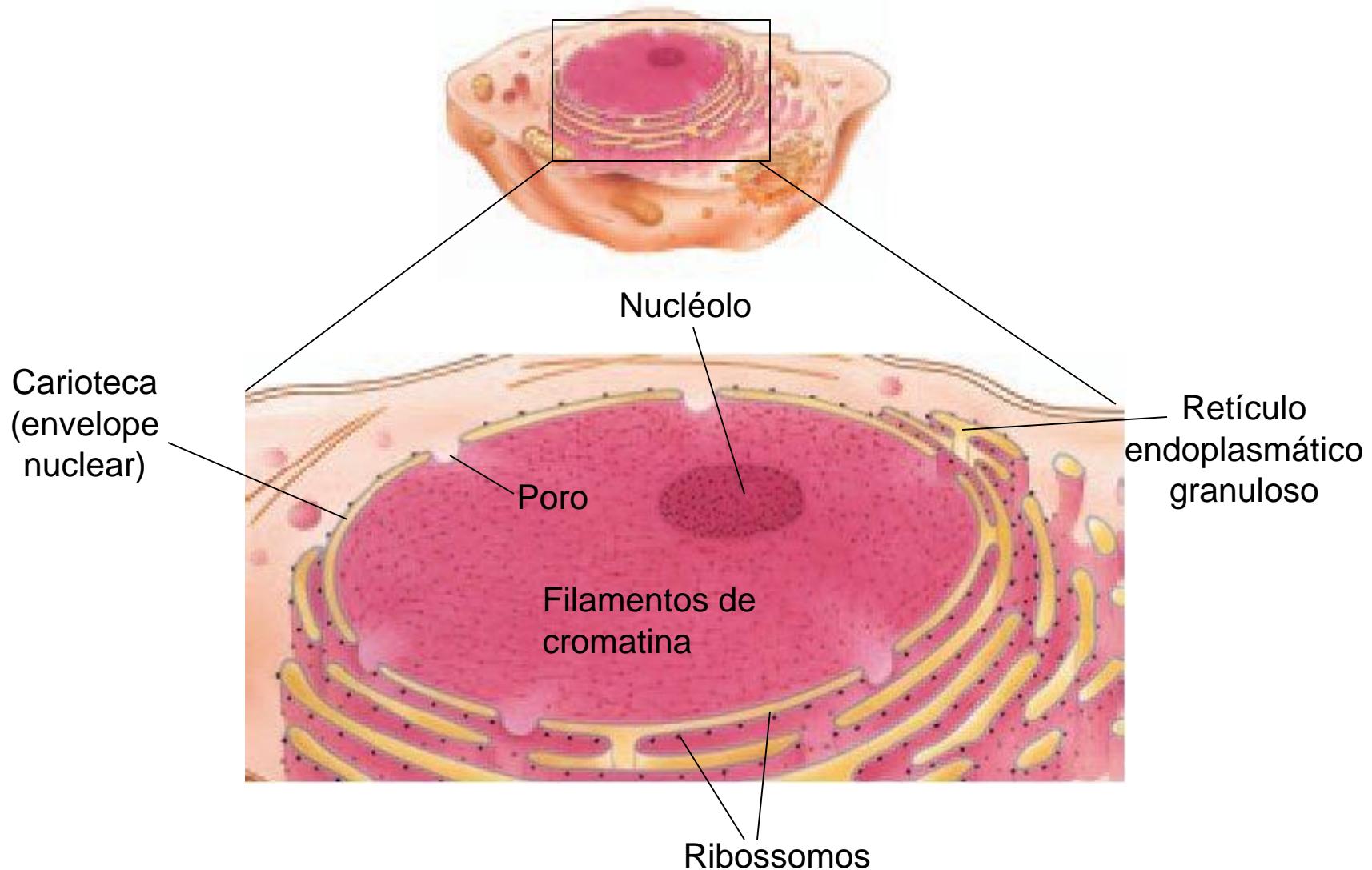
Hemácia
Humana



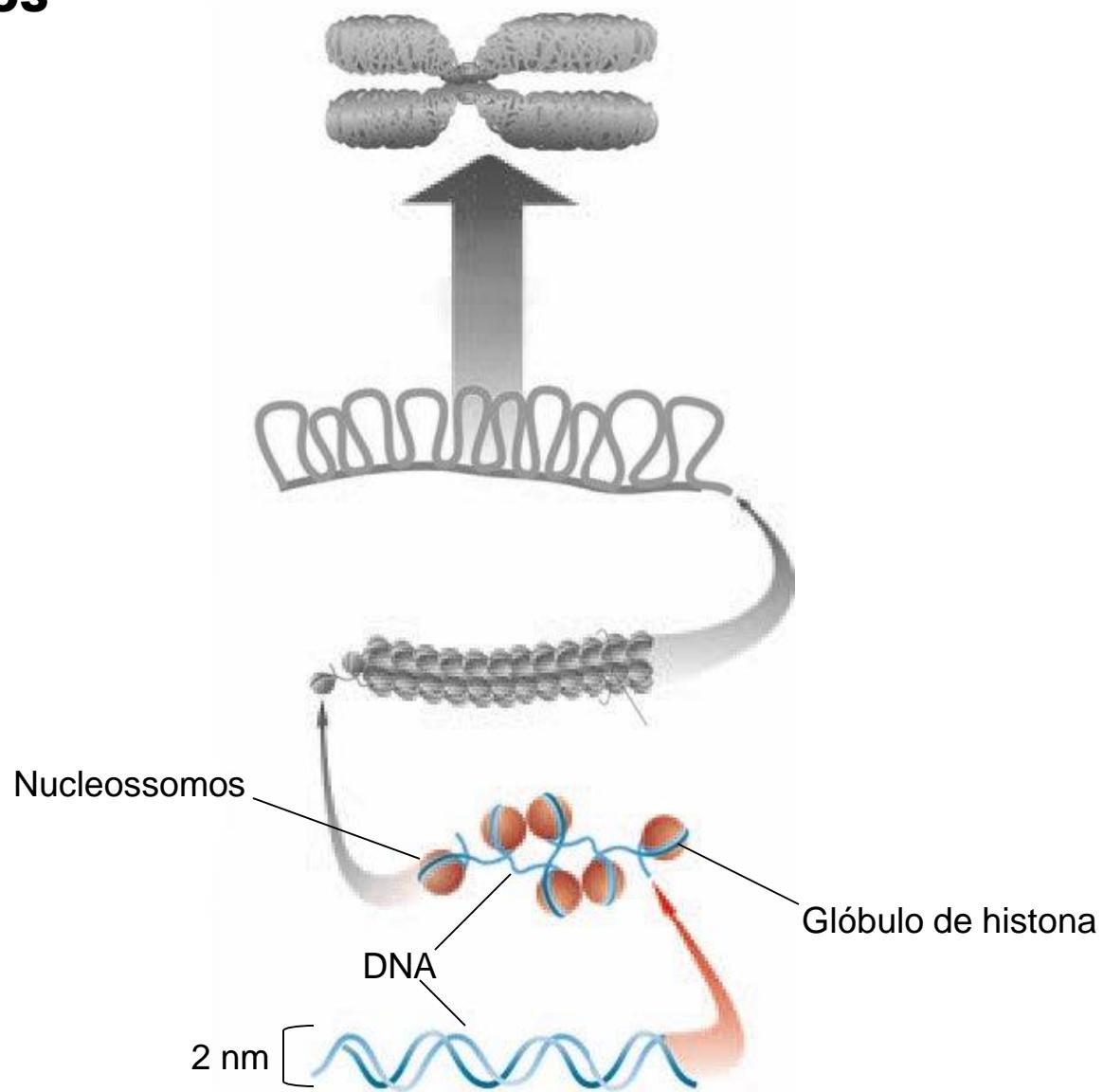
Fibra Muscular
Estriada Humana



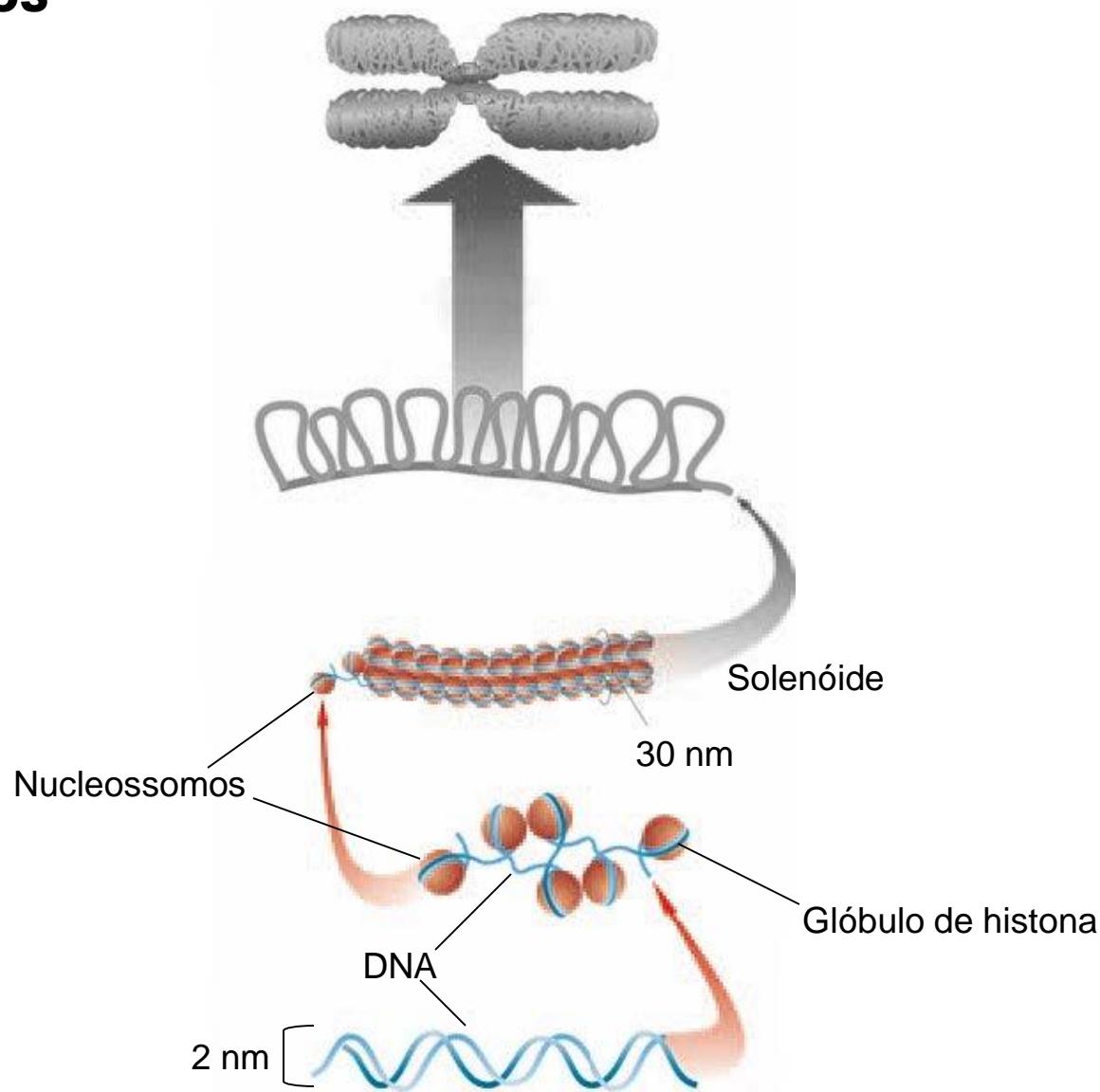
COMPONENTES DO NÚCLEO



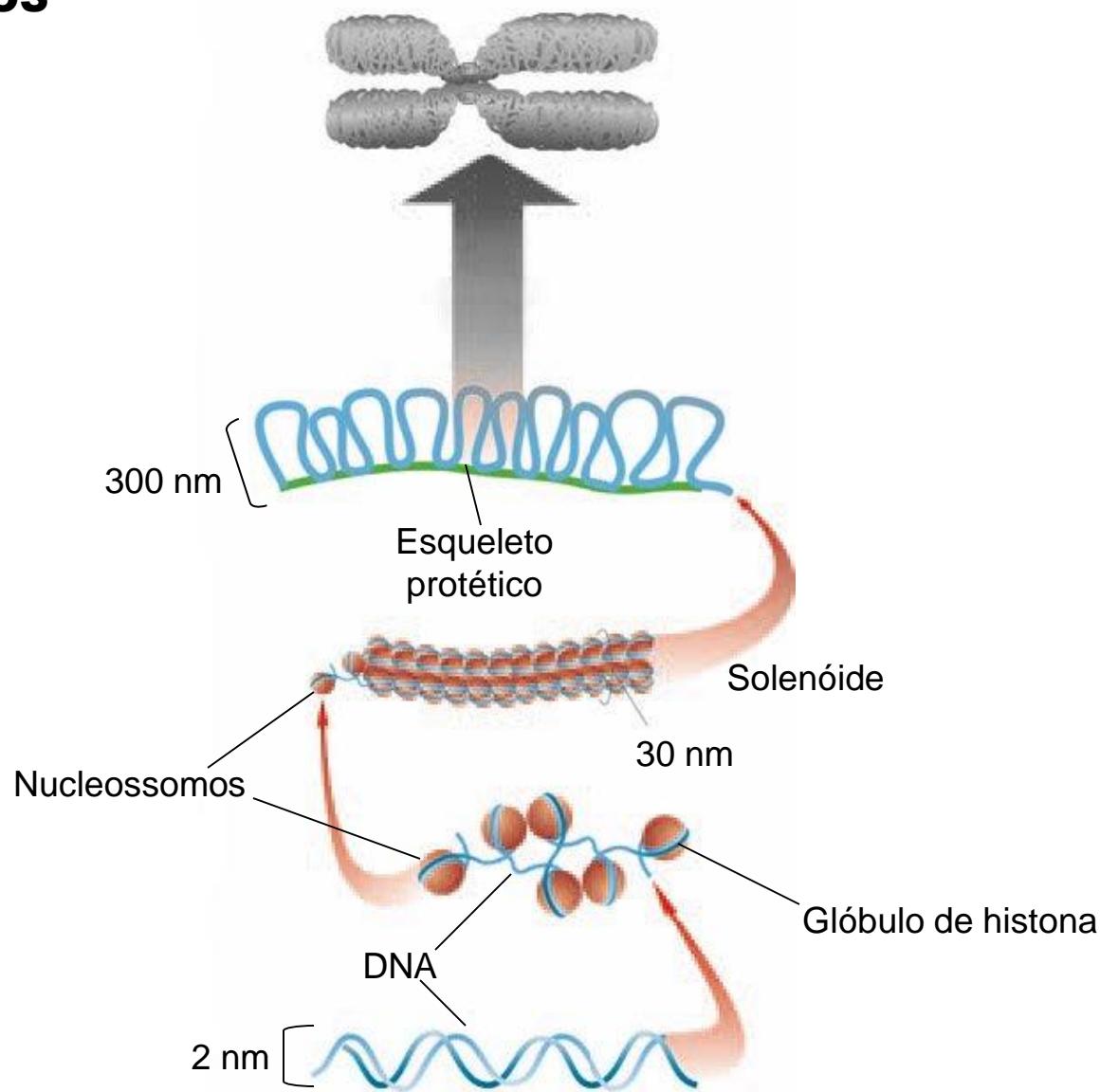
ORGANIZAÇÃO DOS CROMOSSOMOS



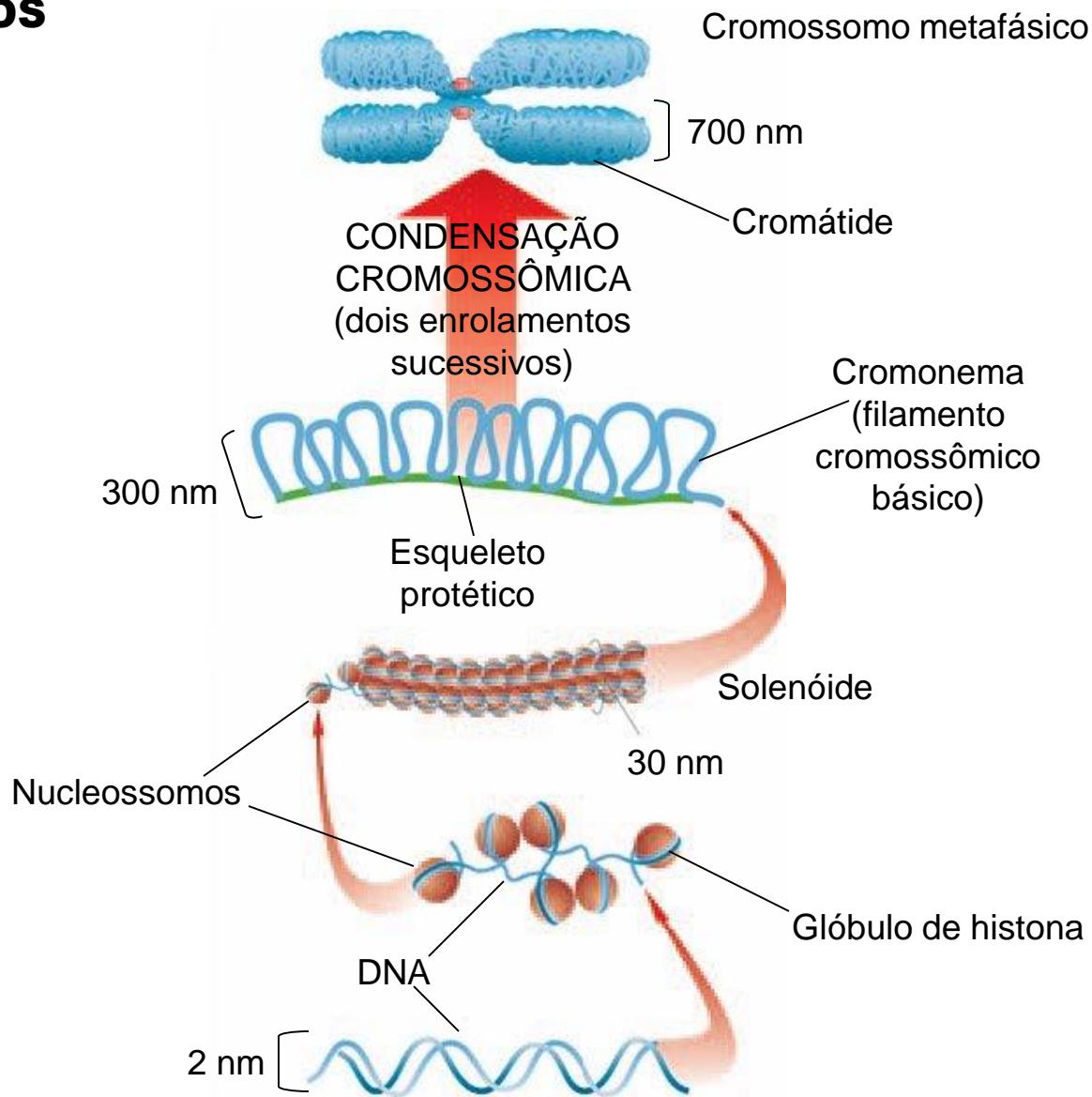
ORGANIZAÇÃO DOS CROMOSSOMOS



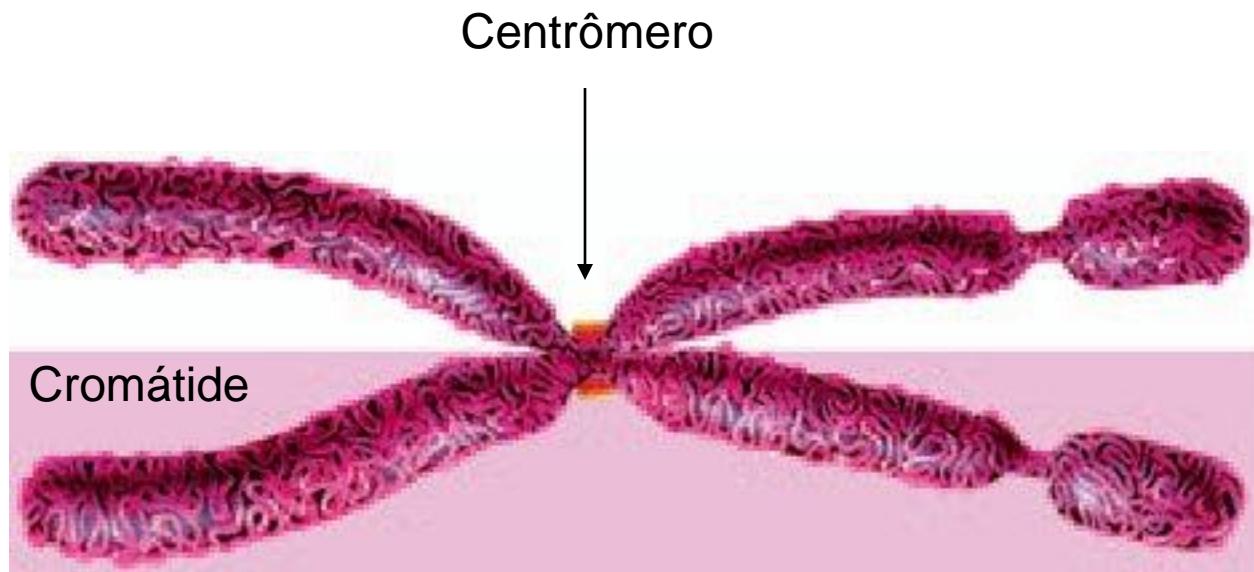
ORGANIZAÇÃO DOS CROMOSSOMOS



ORGANIZAÇÃO DOS CROMOSSOMOS



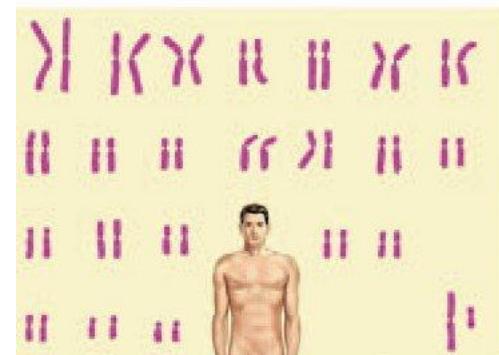
CROMOSSOMO CONDENSADO



TIPOS DE CROMOSSOMO

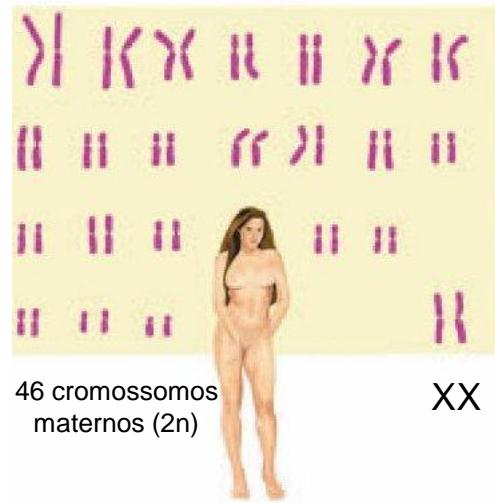


HERANÇA



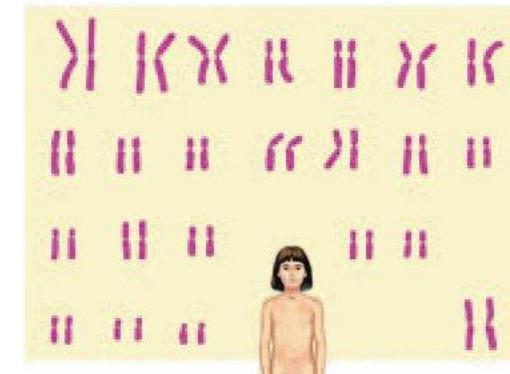
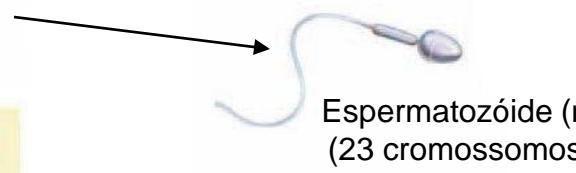
46 cromossomos paternos (2n)

XY



46 cromossomos maternos (2n)

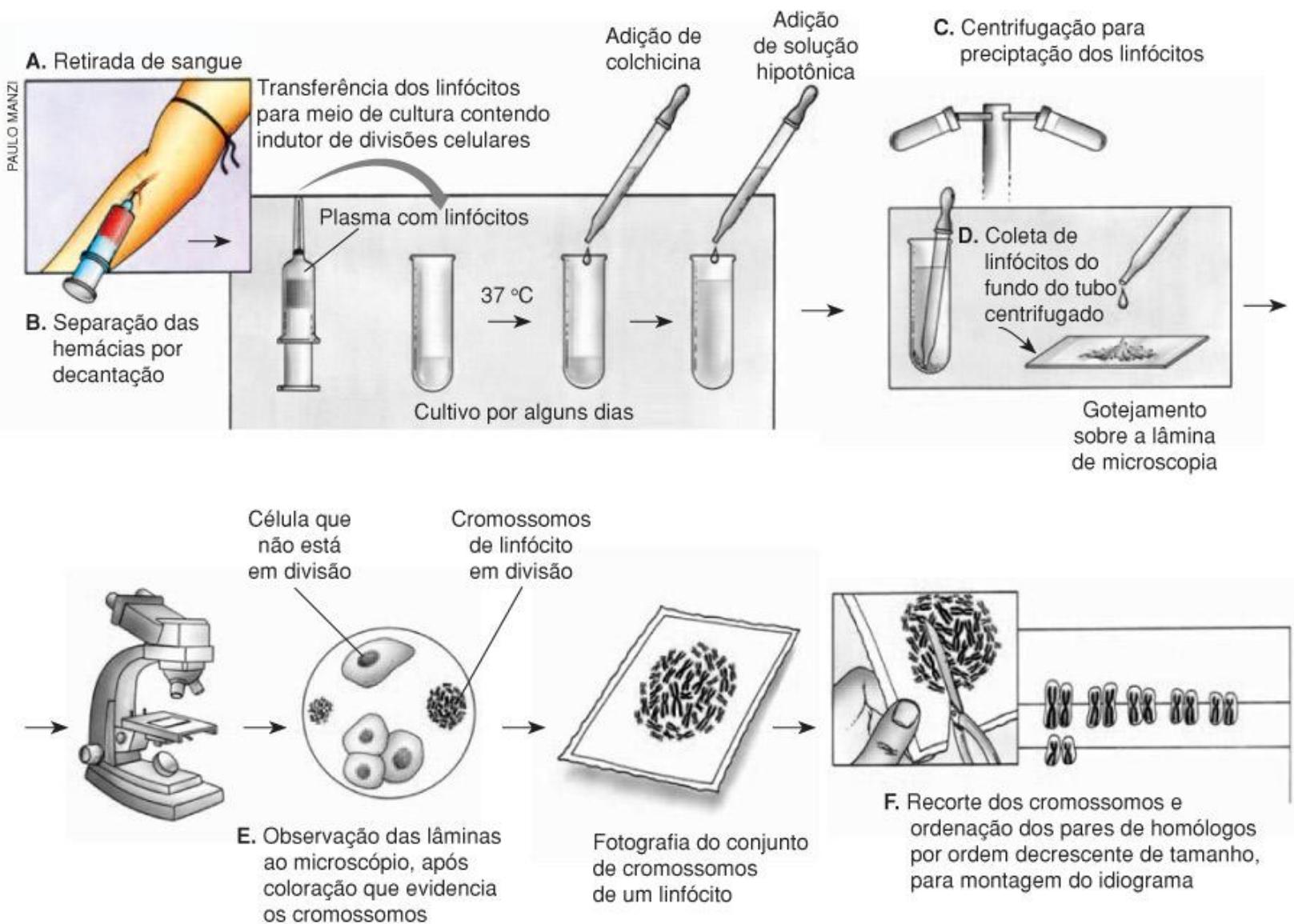
XX



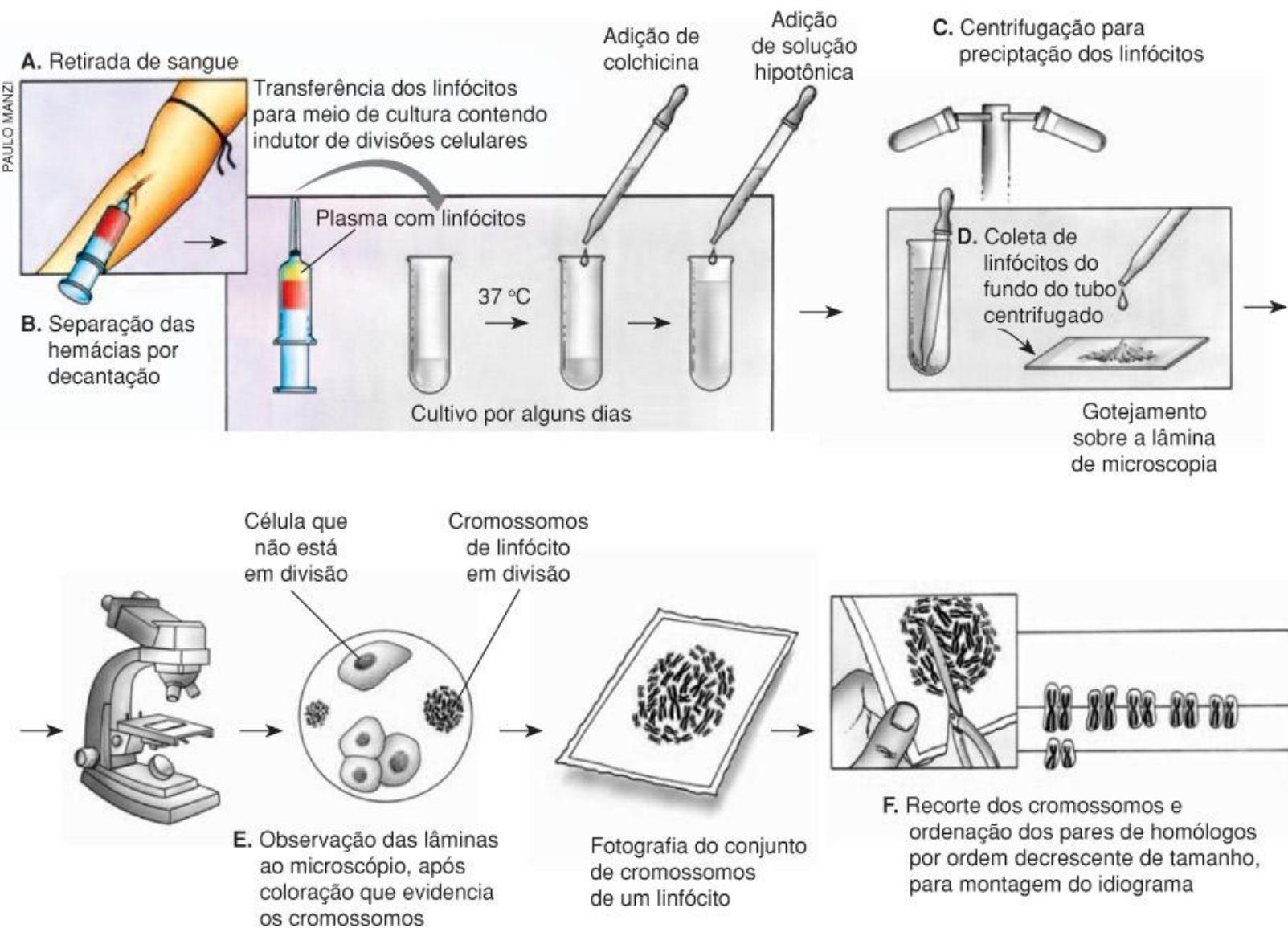
46 cromossomos (23 de origem paterna e 23 de origem materna)

XX

PREPARAÇÃO DE UM IDIOGRAMA HUMANO

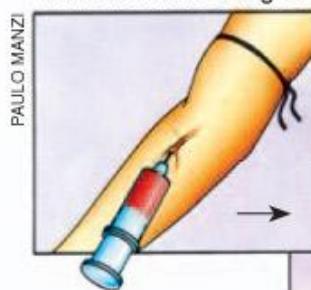


PREPARAÇÃO DE UM IDIOGRAMA HUMANO



PREPARAÇÃO DE UM IDIOGRAMA HUMANO

A. Retirada de sangue



Transferência dos linfócitos para meio de cultura contendo indutor de divisões celulares

Plasma com linfócitos

37 °C

Cultivo por alguns dias

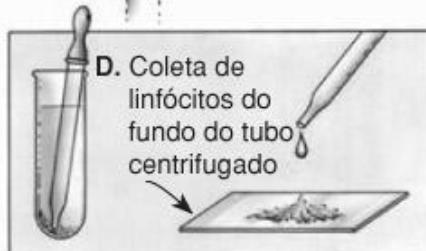
Adição de colchicina

Adição de solução hipotônica

C. Centrifugação para precipitação dos linfócitos



B. Separação das hemácias por decantação

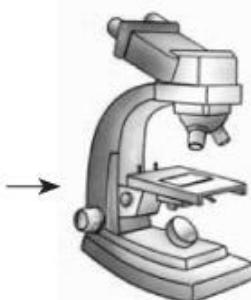


D. Coleta de linfócitos do fundo do tubo centrifugado

Gotejamento sobre a lâmina de microscopia

Célula que não está em divisão

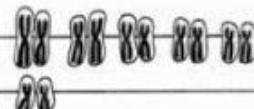
Cromossomos de linfócito em divisão



E. Observação das lâminas ao microscópio, após coloração que evidencia os cromossomos

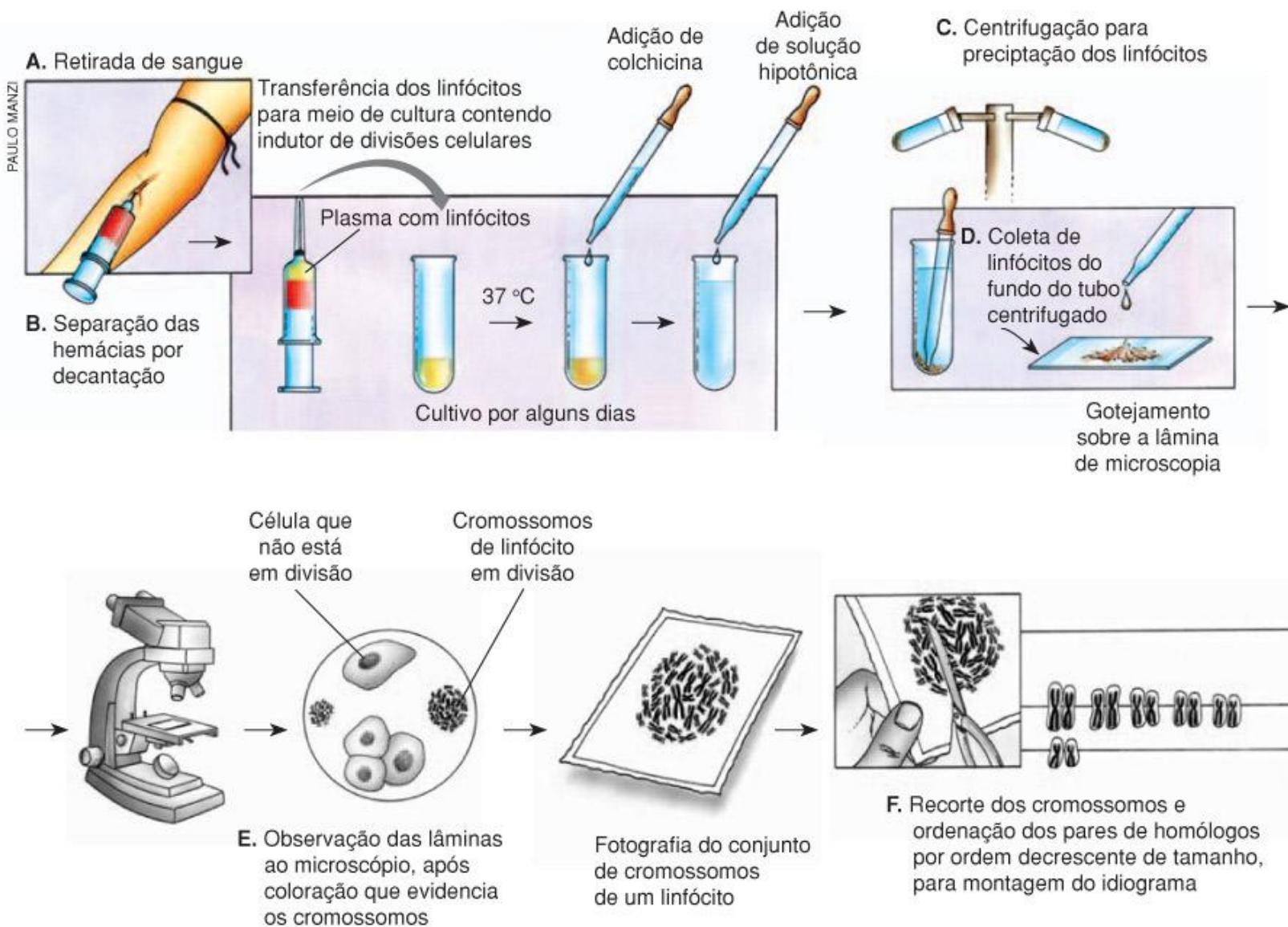


Fotografia do conjunto de cromossomos de um linfócito

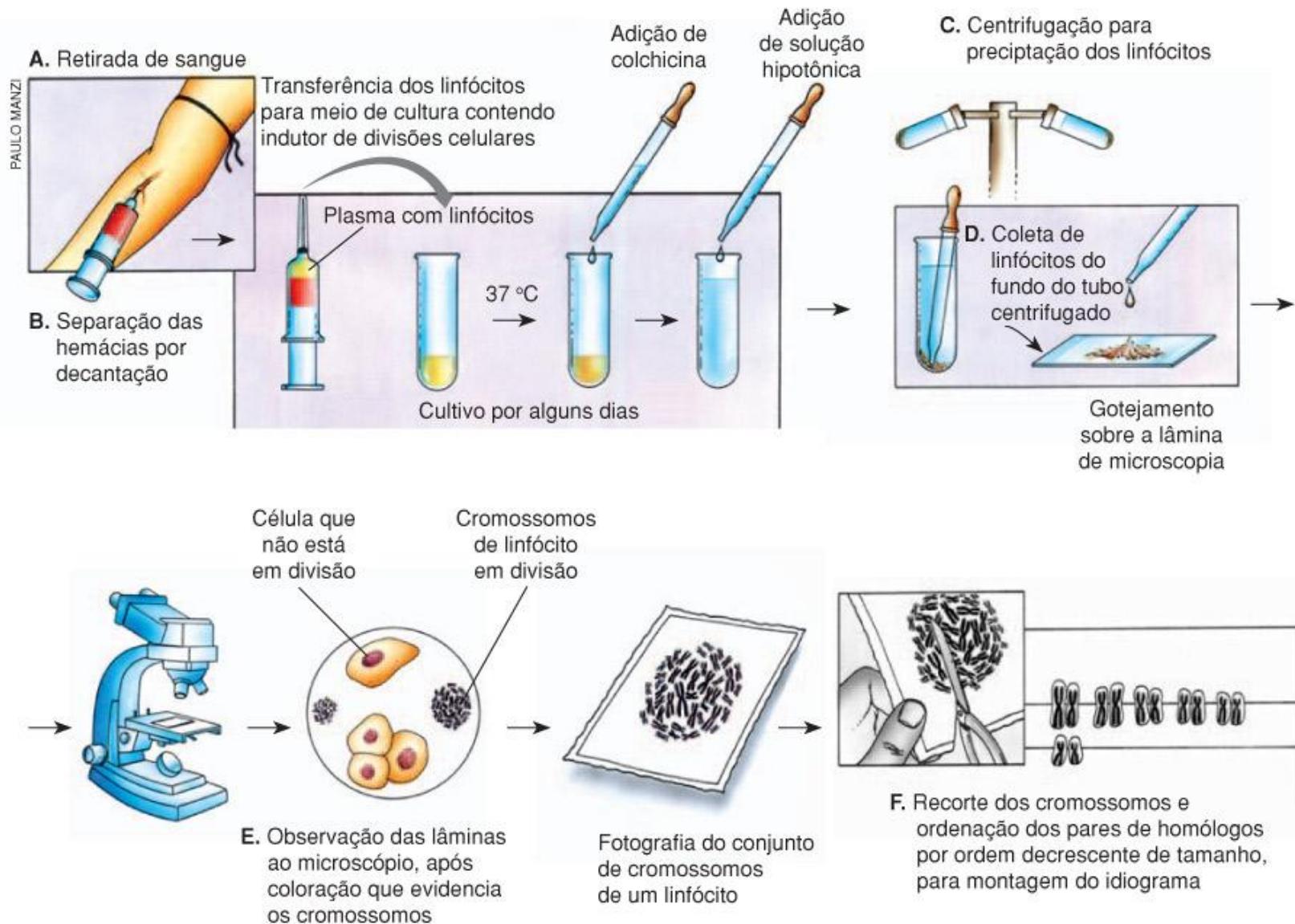


F. Recorte dos cromossomos e ordenação dos pares de homólogos por ordem decrescente de tamanho, para montagem do idiograma

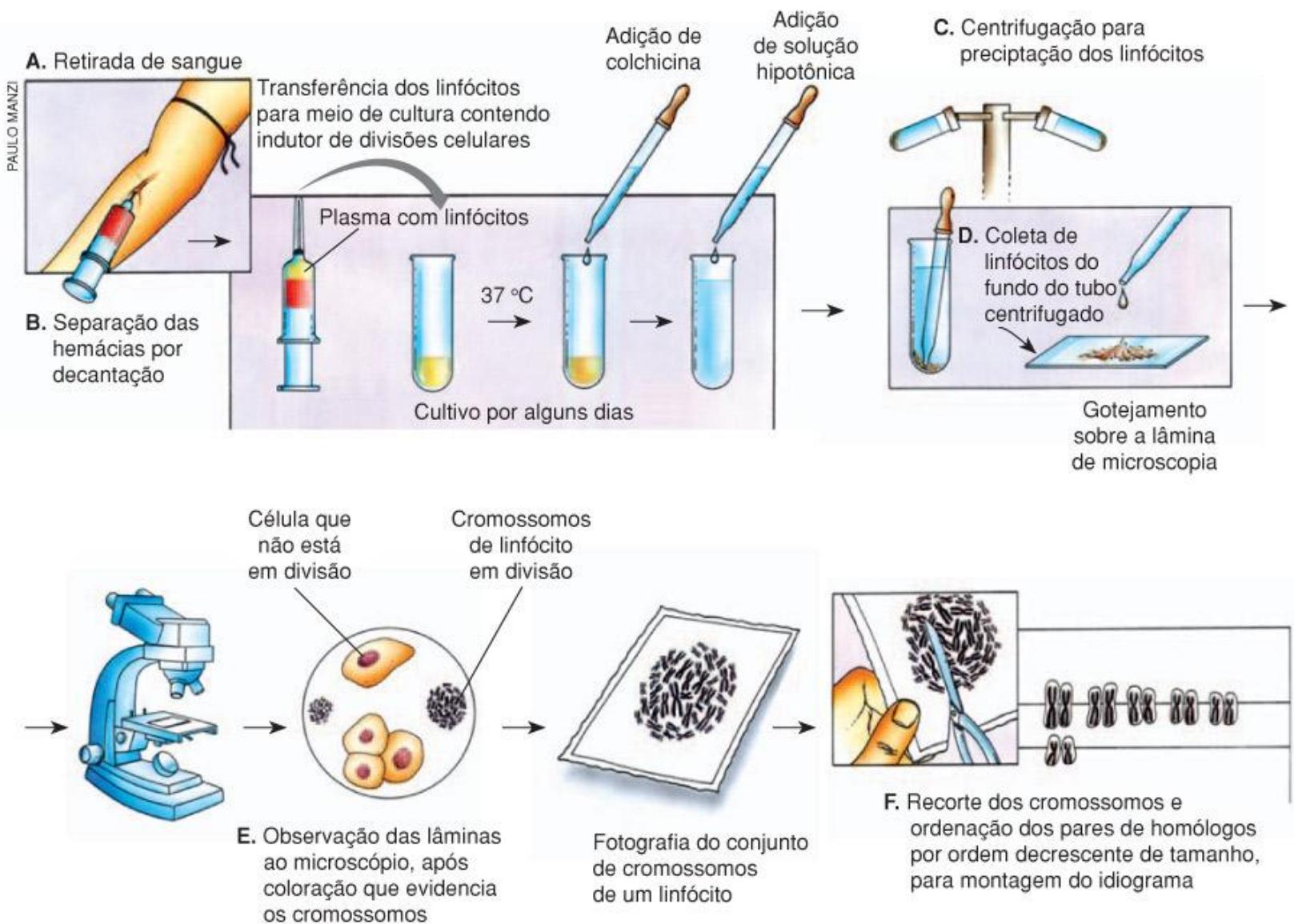
PREPARAÇÃO DE UM IDIOGRAMA HUMANO



PREPARAÇÃO DE UM IDIOGRAMA HUMANO



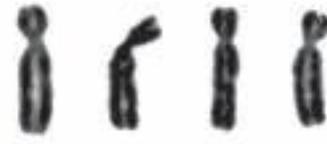
PREPARAÇÃO DE UM IDIOGRAMA HUMANO



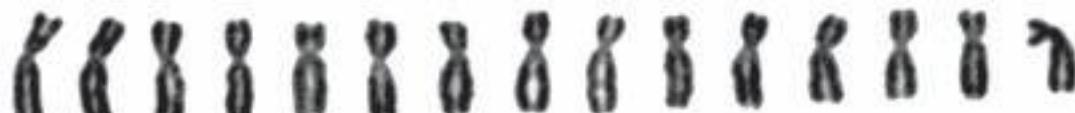
SÍNDROME DE DOWN



Grupo A



Grupo B



Grupo C + X



Grupo D



Grupo E



Grupo F



Grupo G Y

SÍNDROME DE TURNER



Grupo A



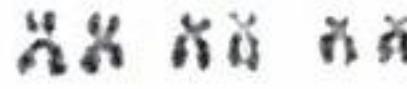
Grupo B



Grupo C + X



Grupo D



Grupo E



Grupo F



Grupo G

Y

SÍNDROME DE KLINEFELTER



Grupo A



Grupo B



Grupo C + 2X



Grupo D



Grupo E



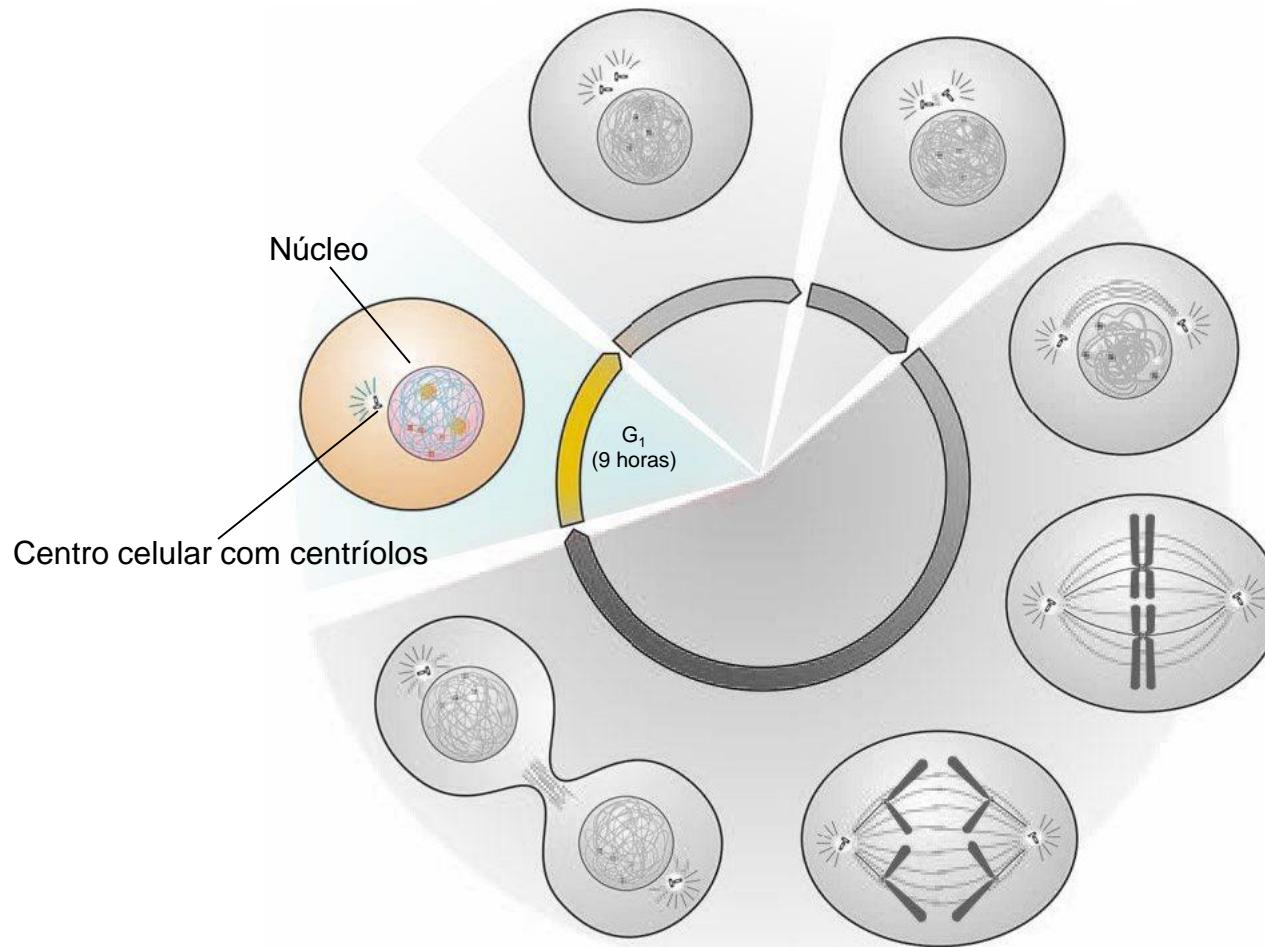
Grupo F



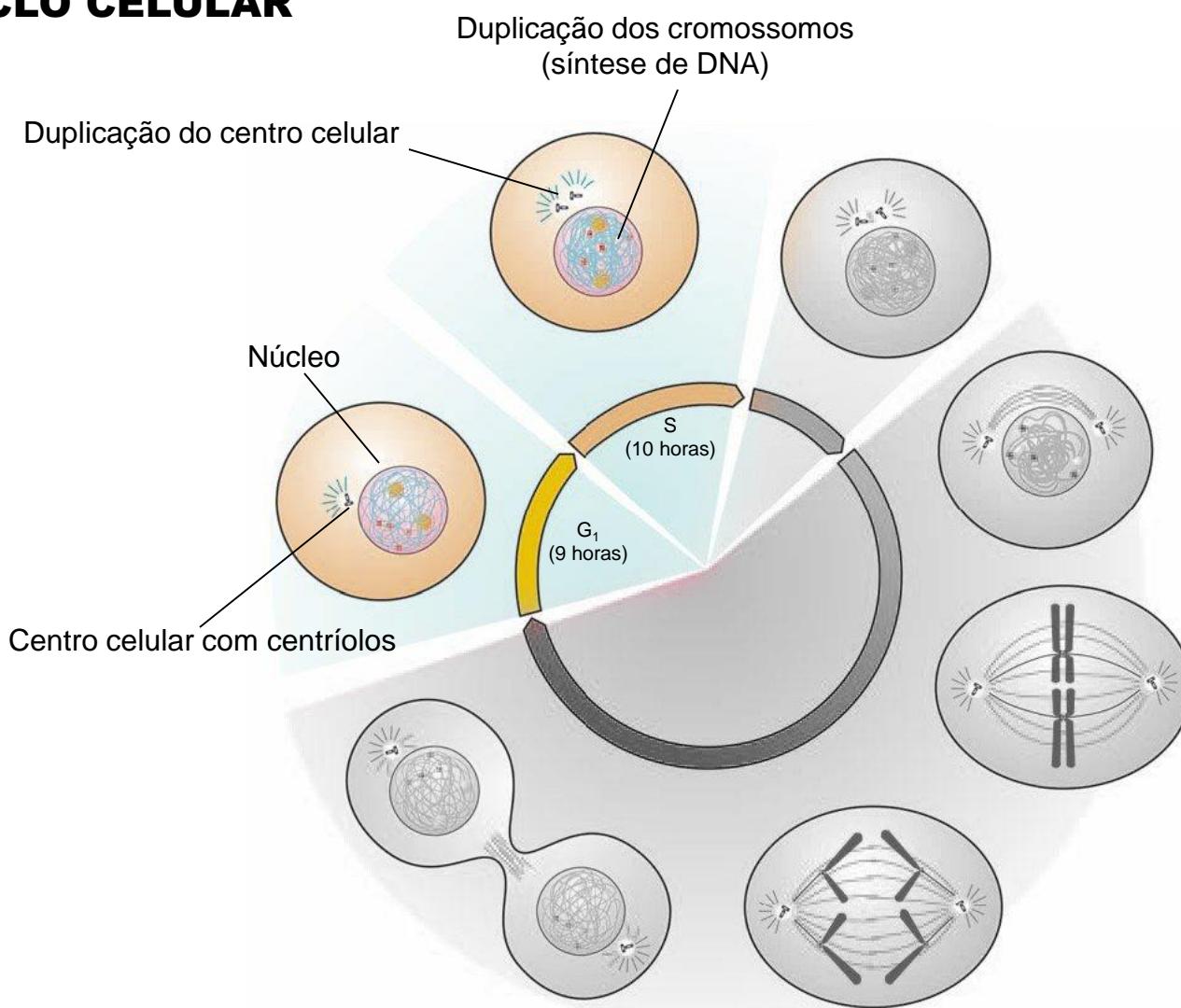
Grupo G



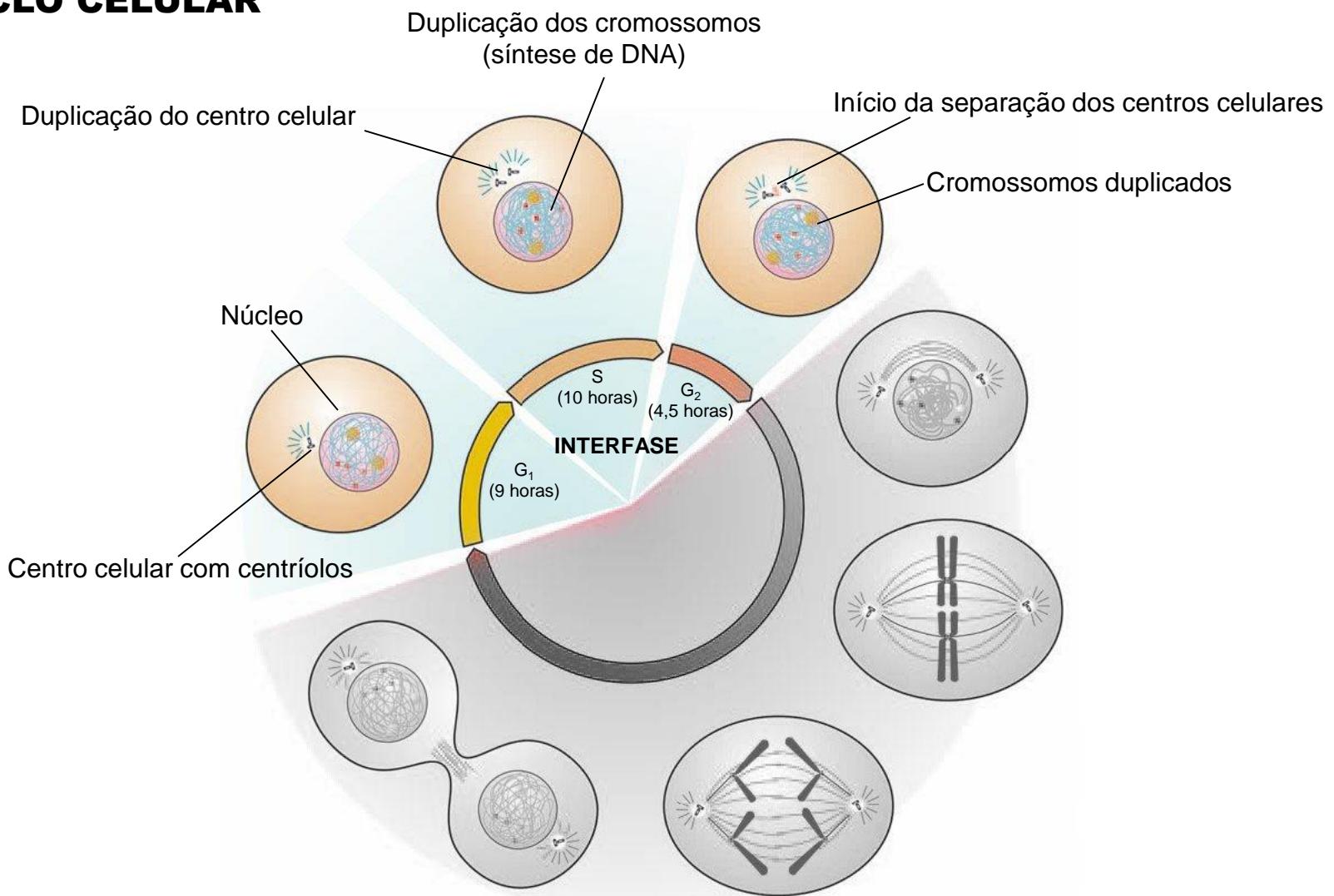
O CICLO CELULAR



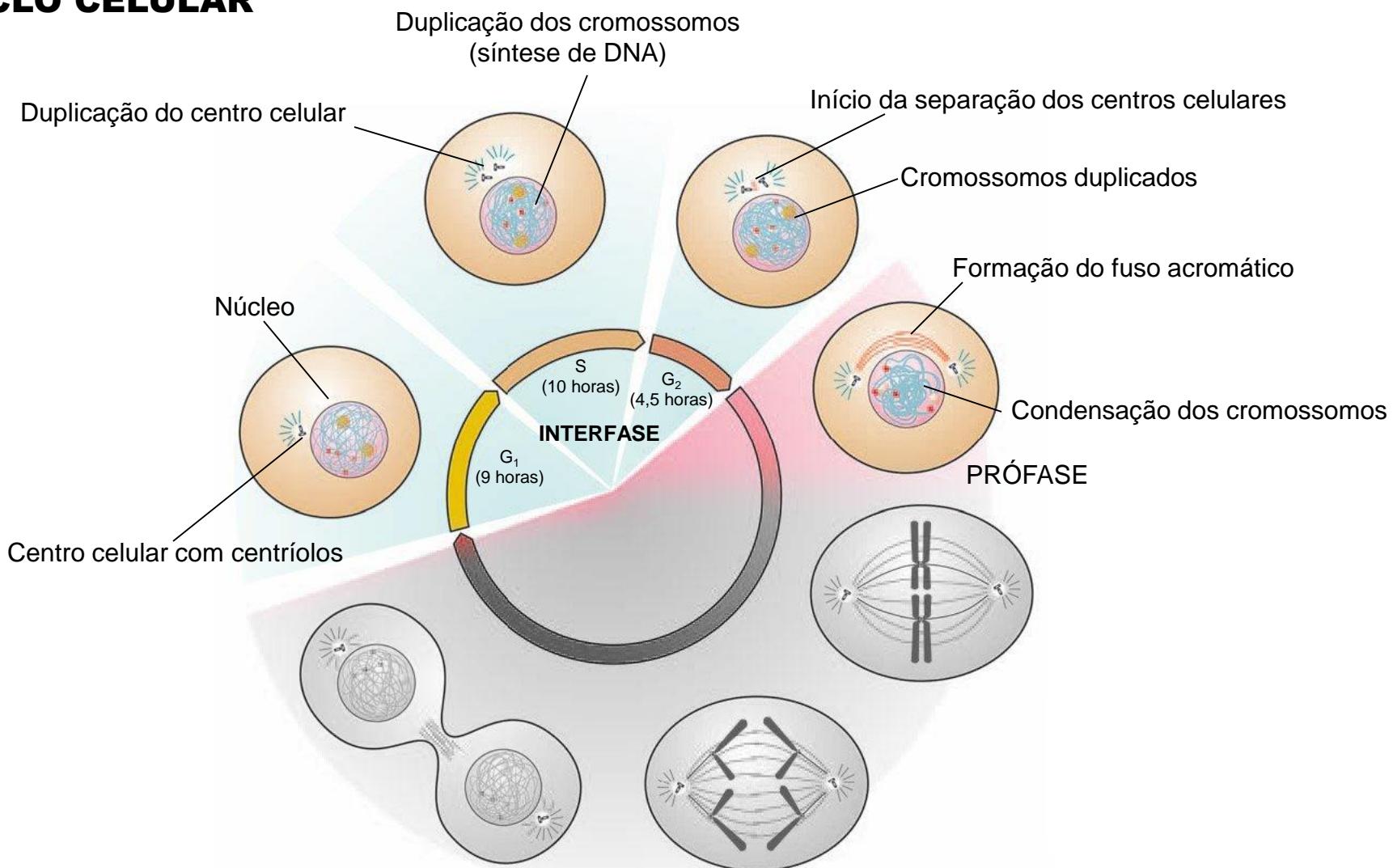
O CICLO CELULAR



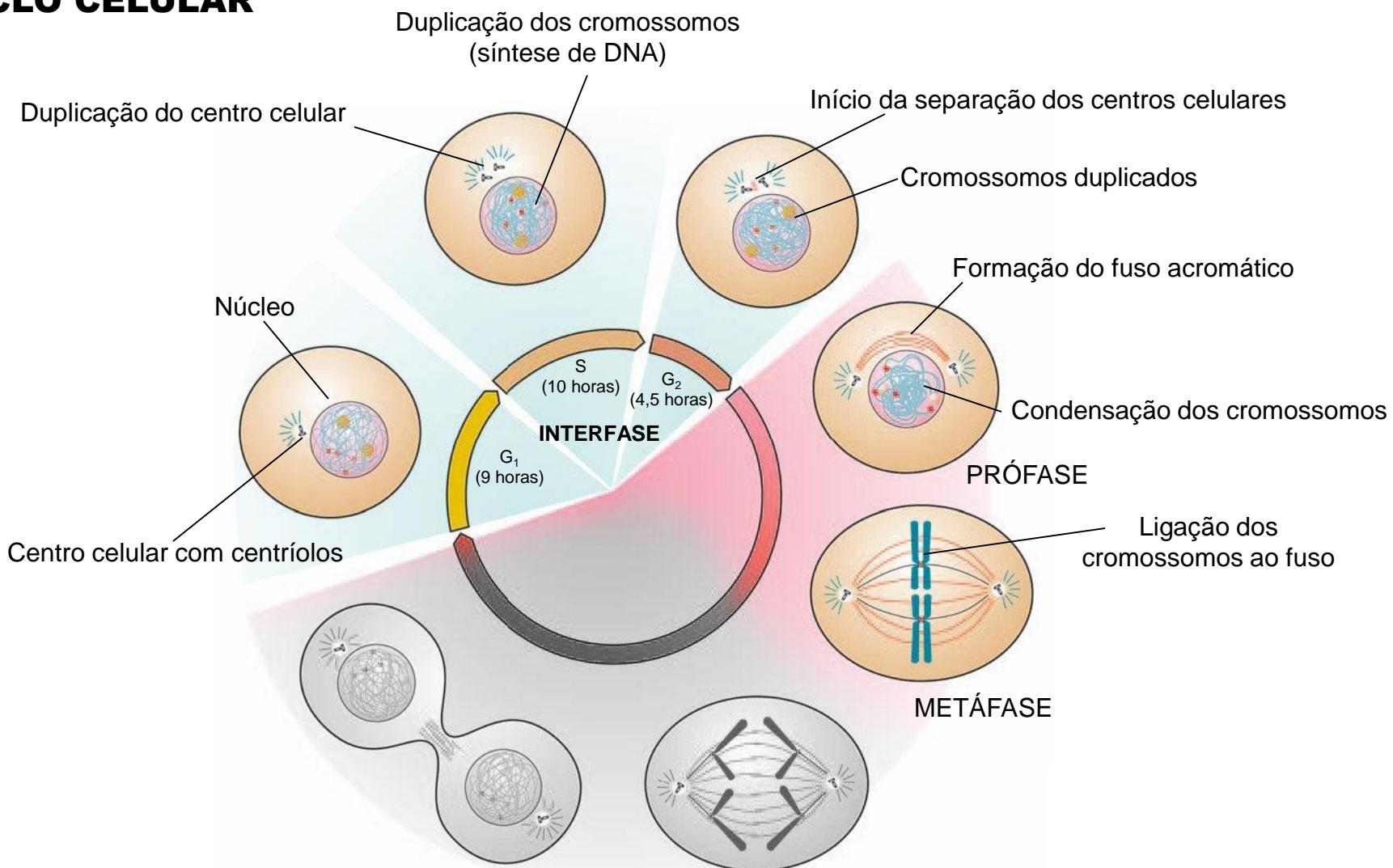
O CICLO CELULAR



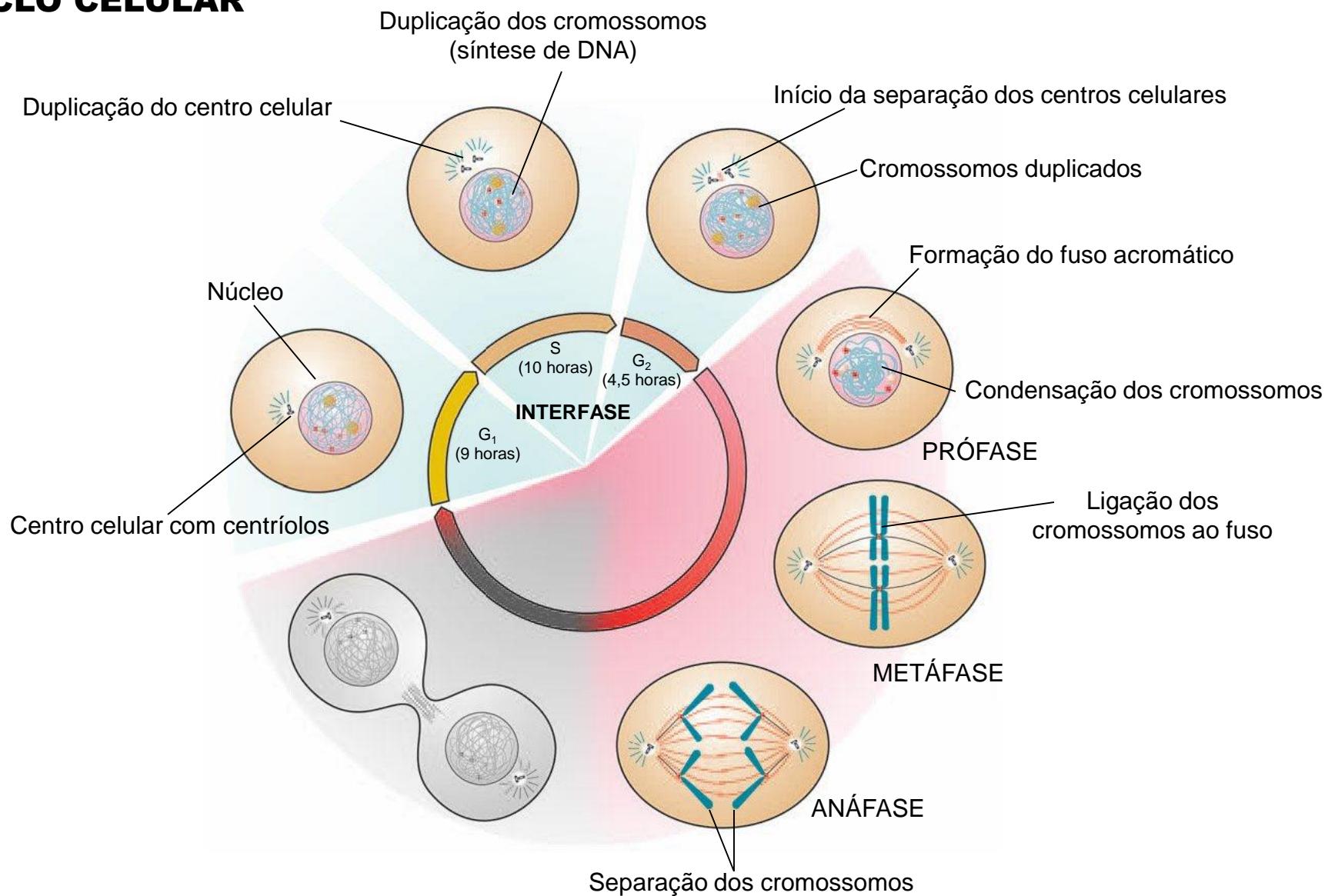
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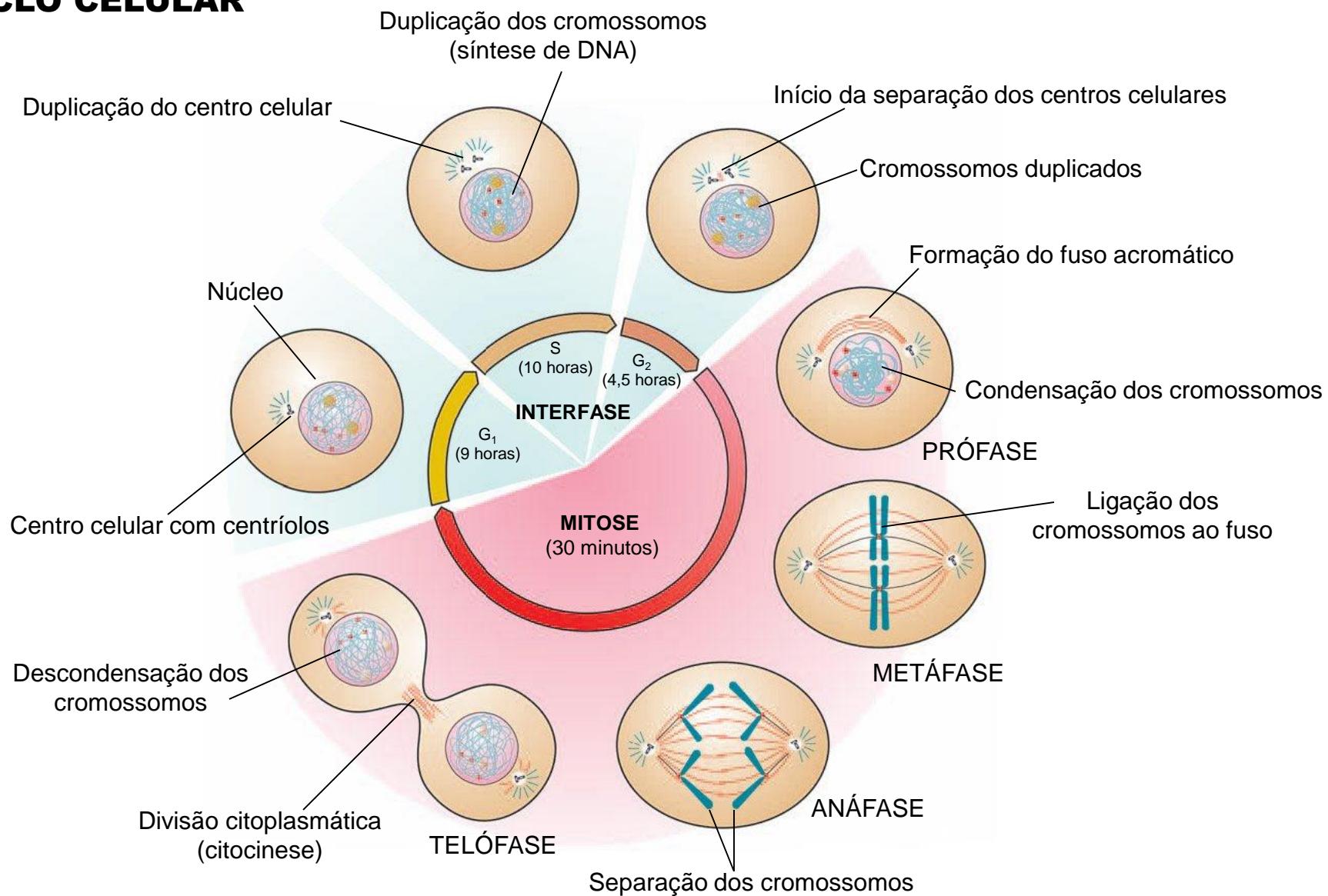
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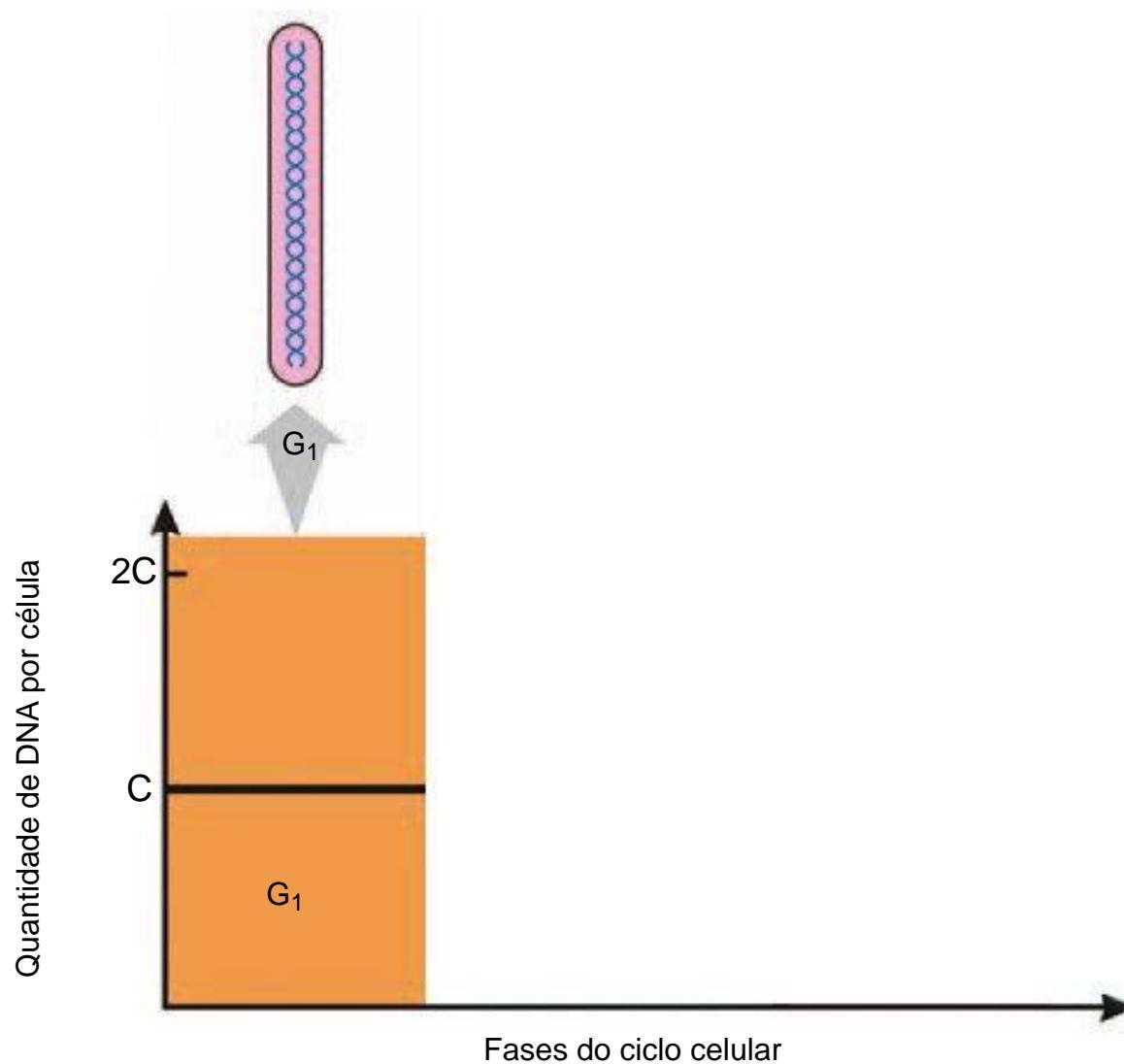
O CICLO CELULAR



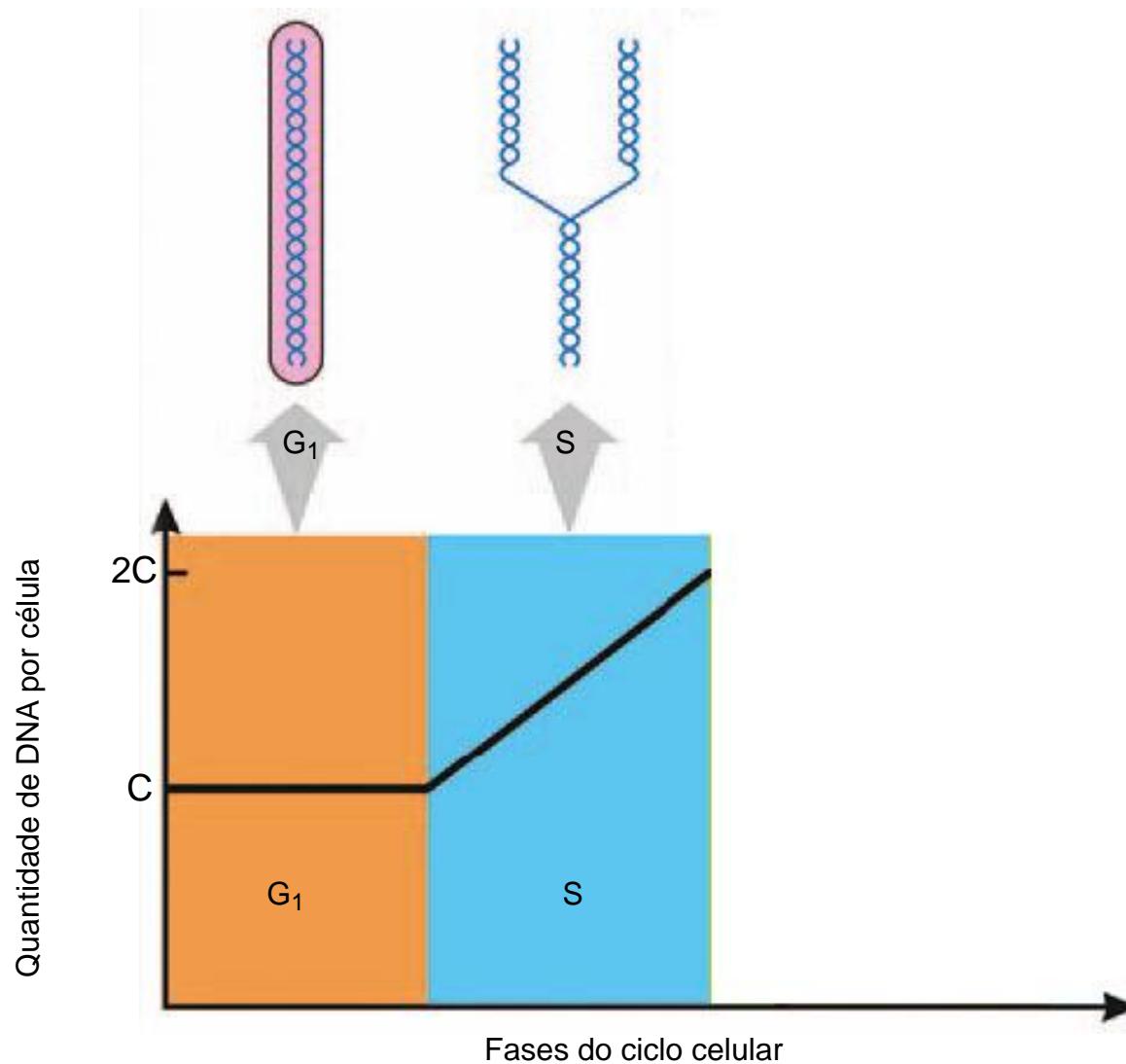
O CICLO CELULAR



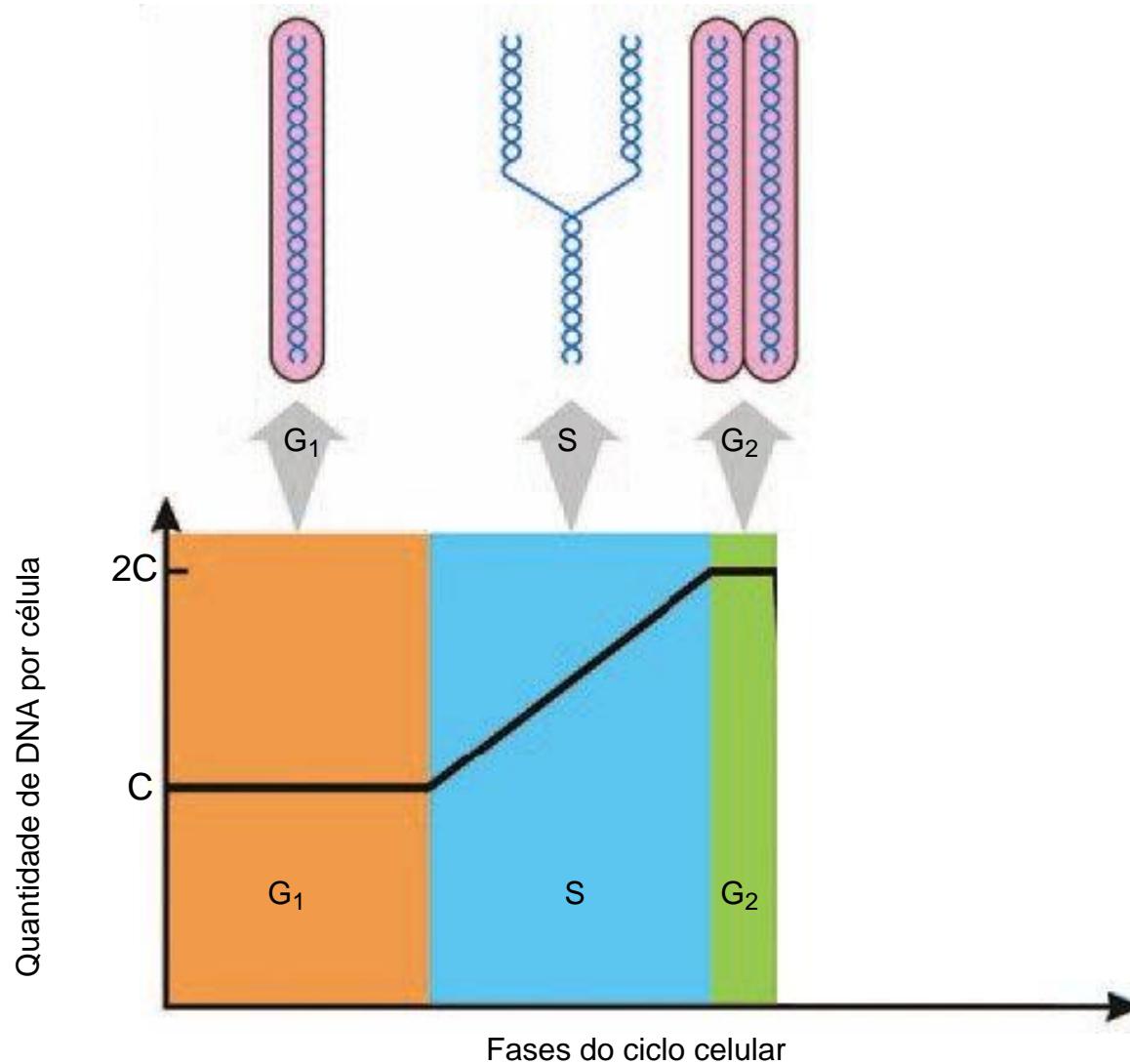
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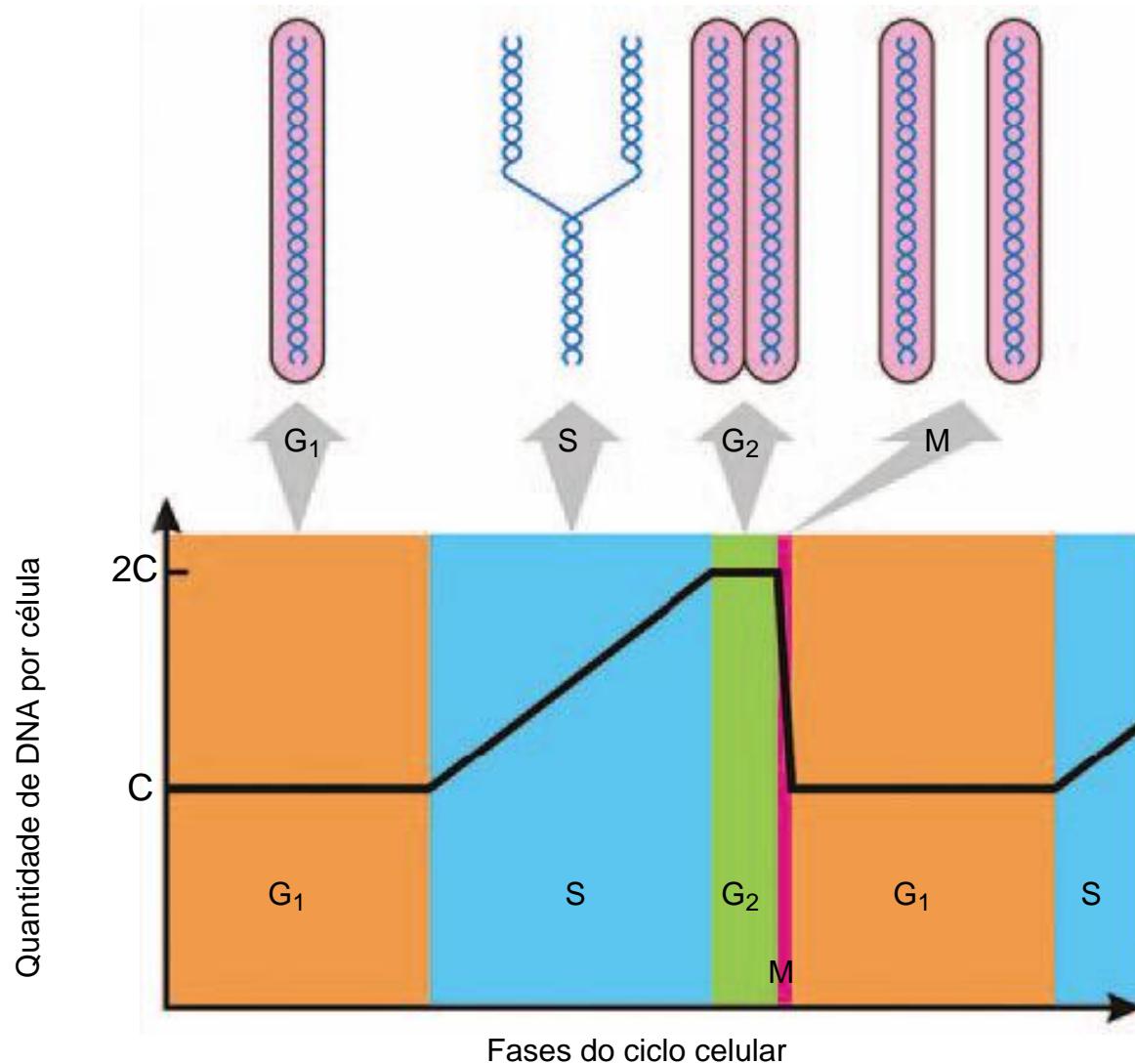
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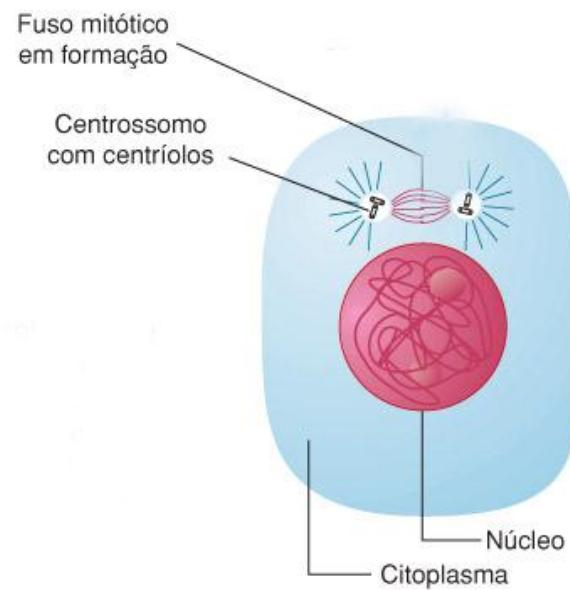
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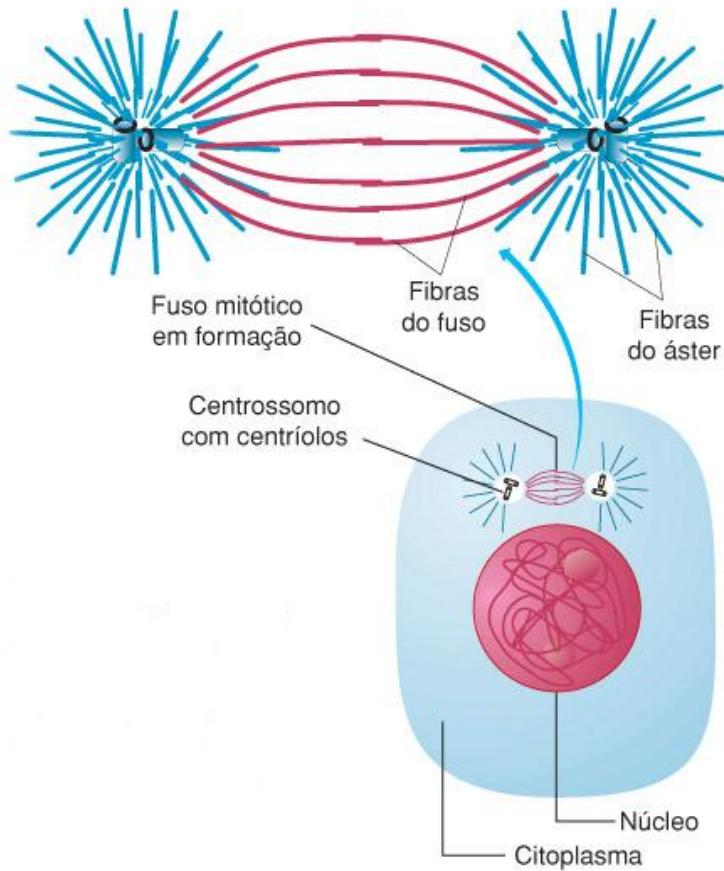
O CICLO CELULAR



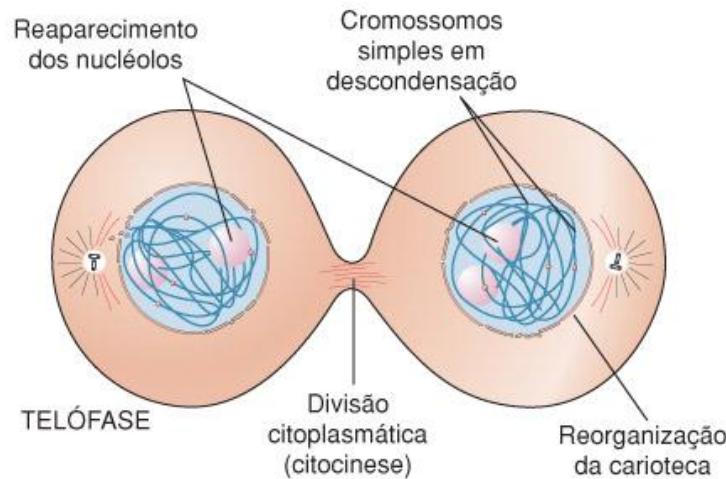
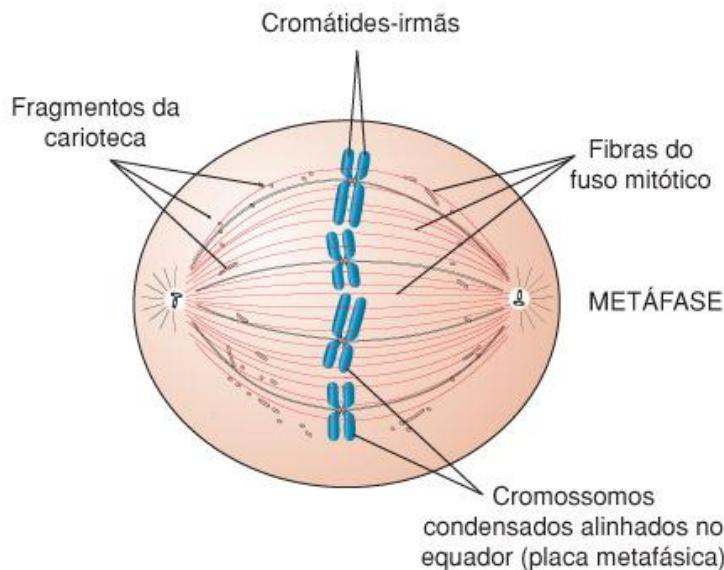
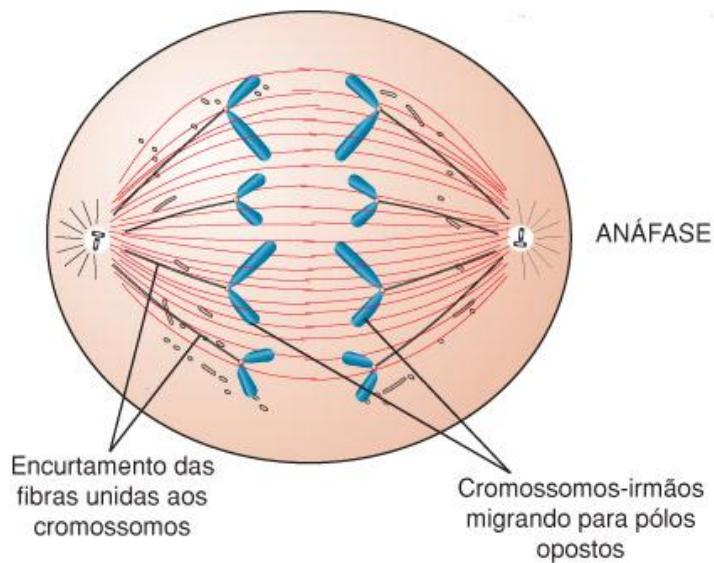
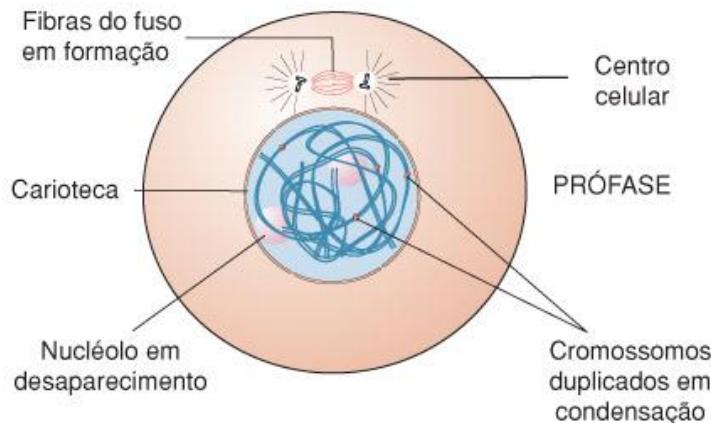
PRÓFASE



PRÓFASE



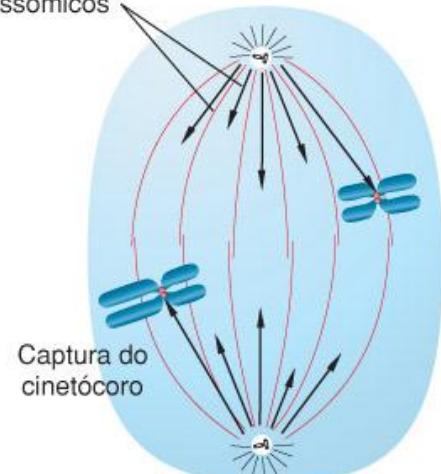
AS FASES DA MITOSE



FORMAÇÃO DA PLACA METAFÁSICA

Crescimento dos
microtúbulos
cromossômicos

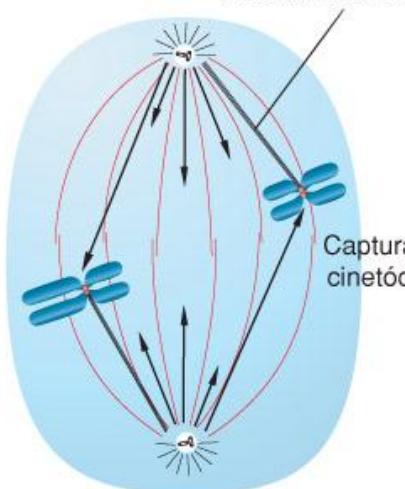
METÁFASE



(A)

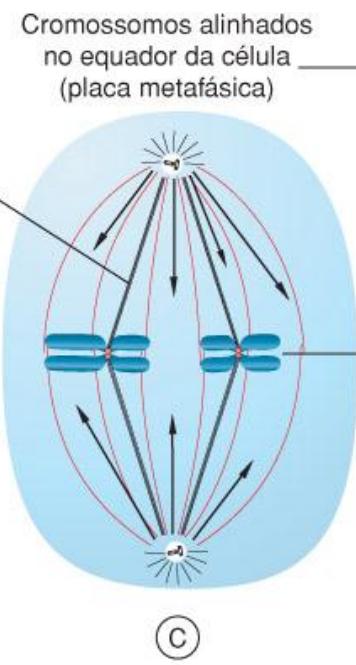
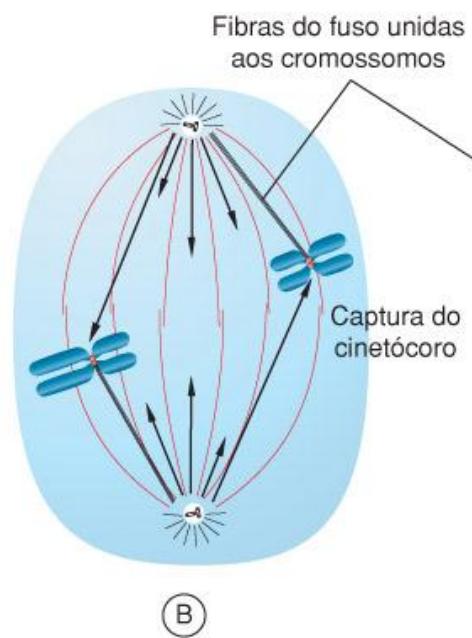
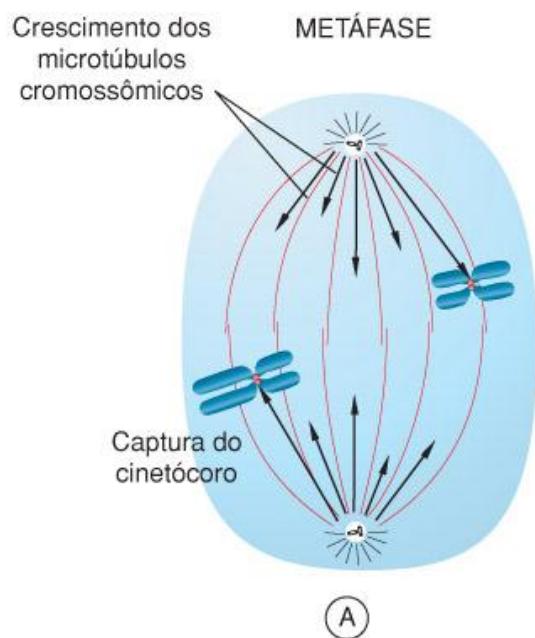
Fibras do fuso unidas
aos cromossomos

Captura do
cinetócoro

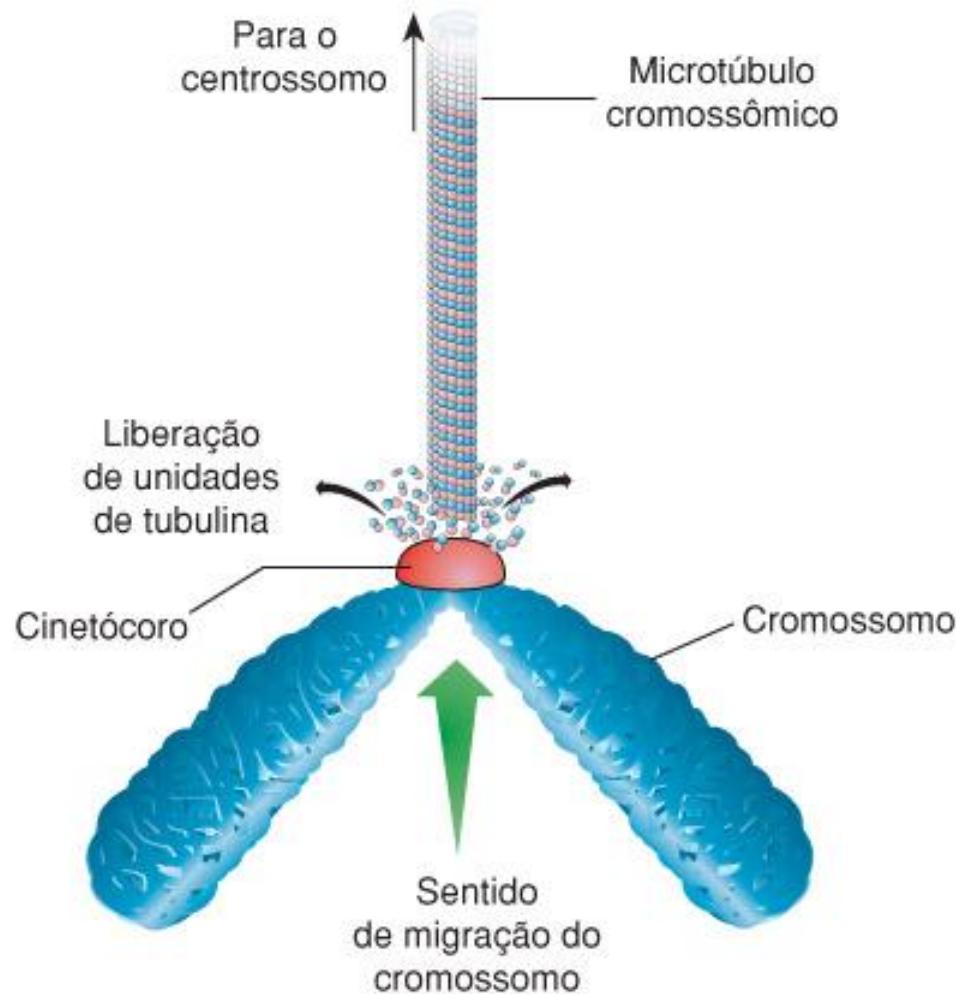


(B)

FORMAÇÃO DA PLACA METAFÁSICA

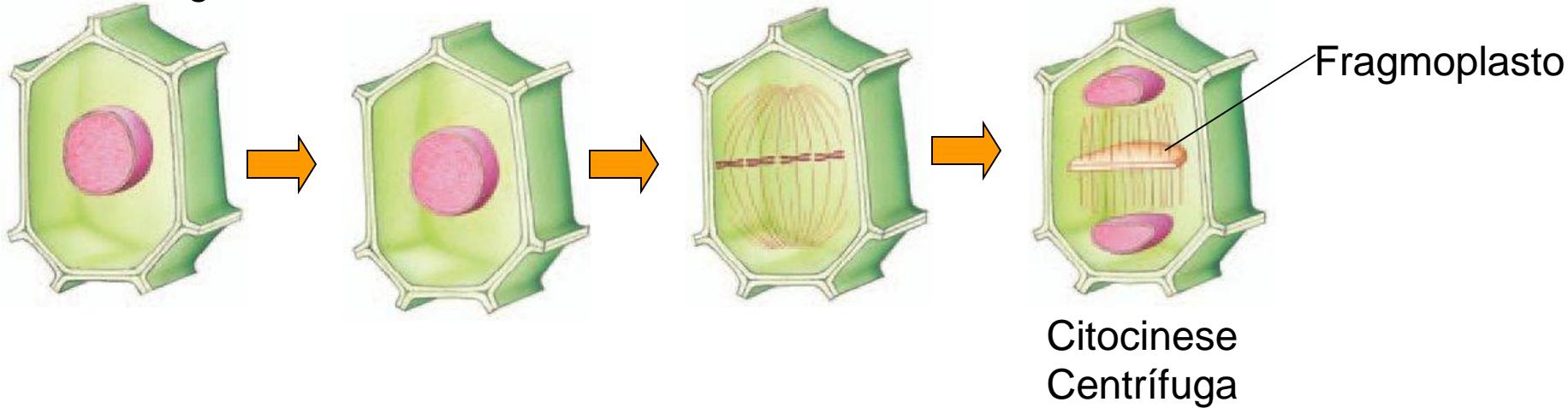


ENCURTAMENTO DOS MICROTÚBULOS E MIGRAÇÃO DOS CROMOSSOMOS

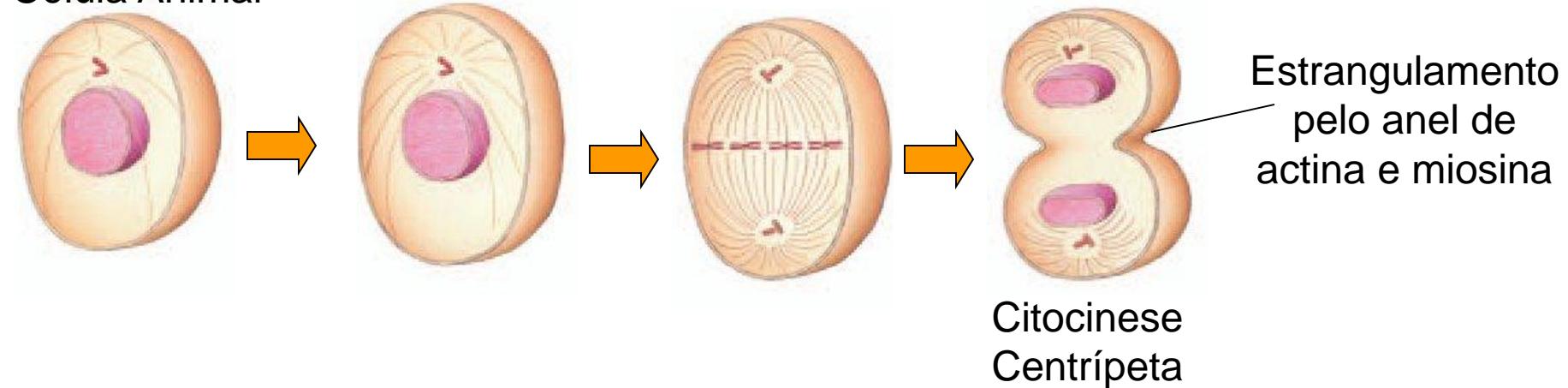


CITOCINESES

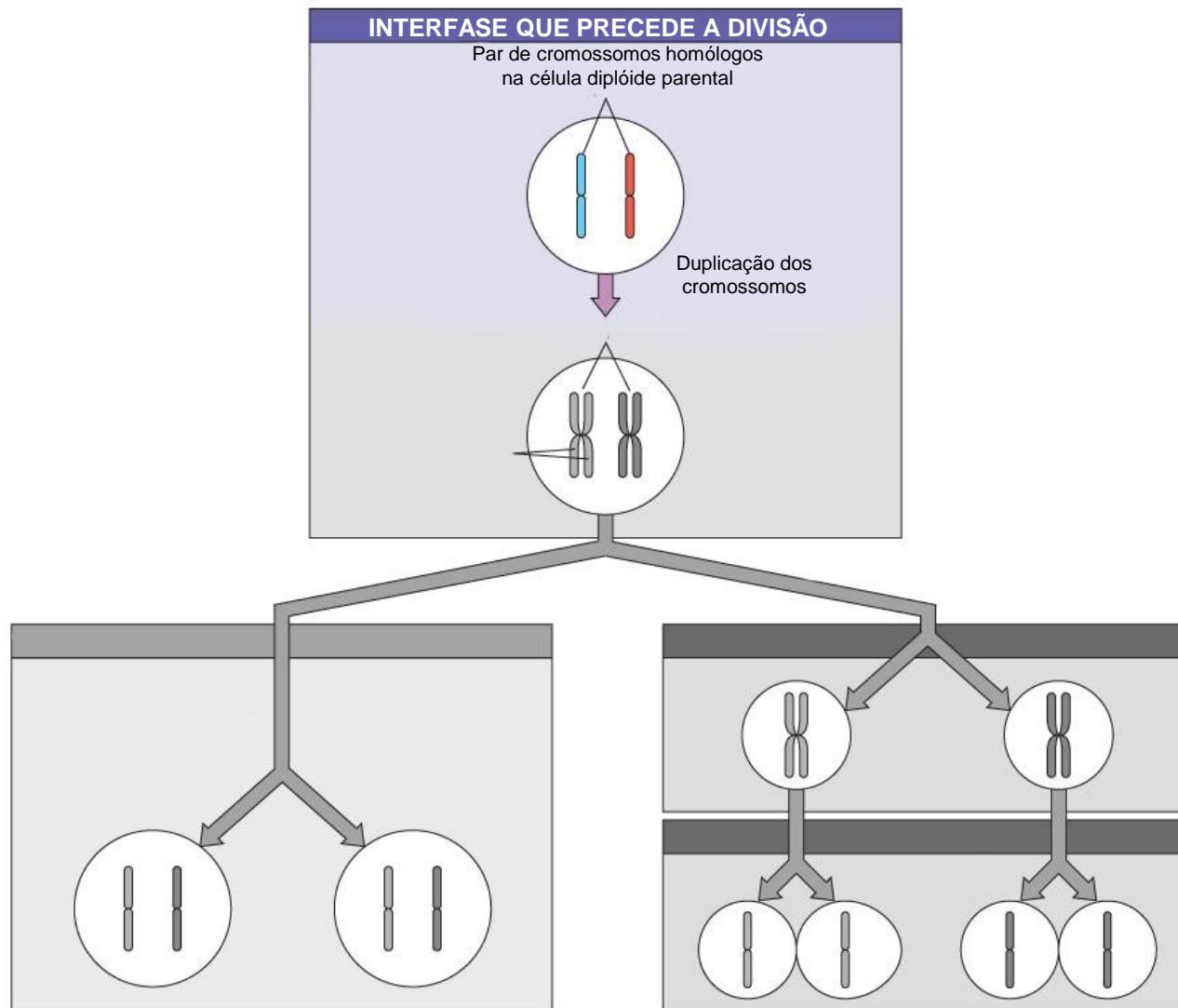
Célula Vegetal



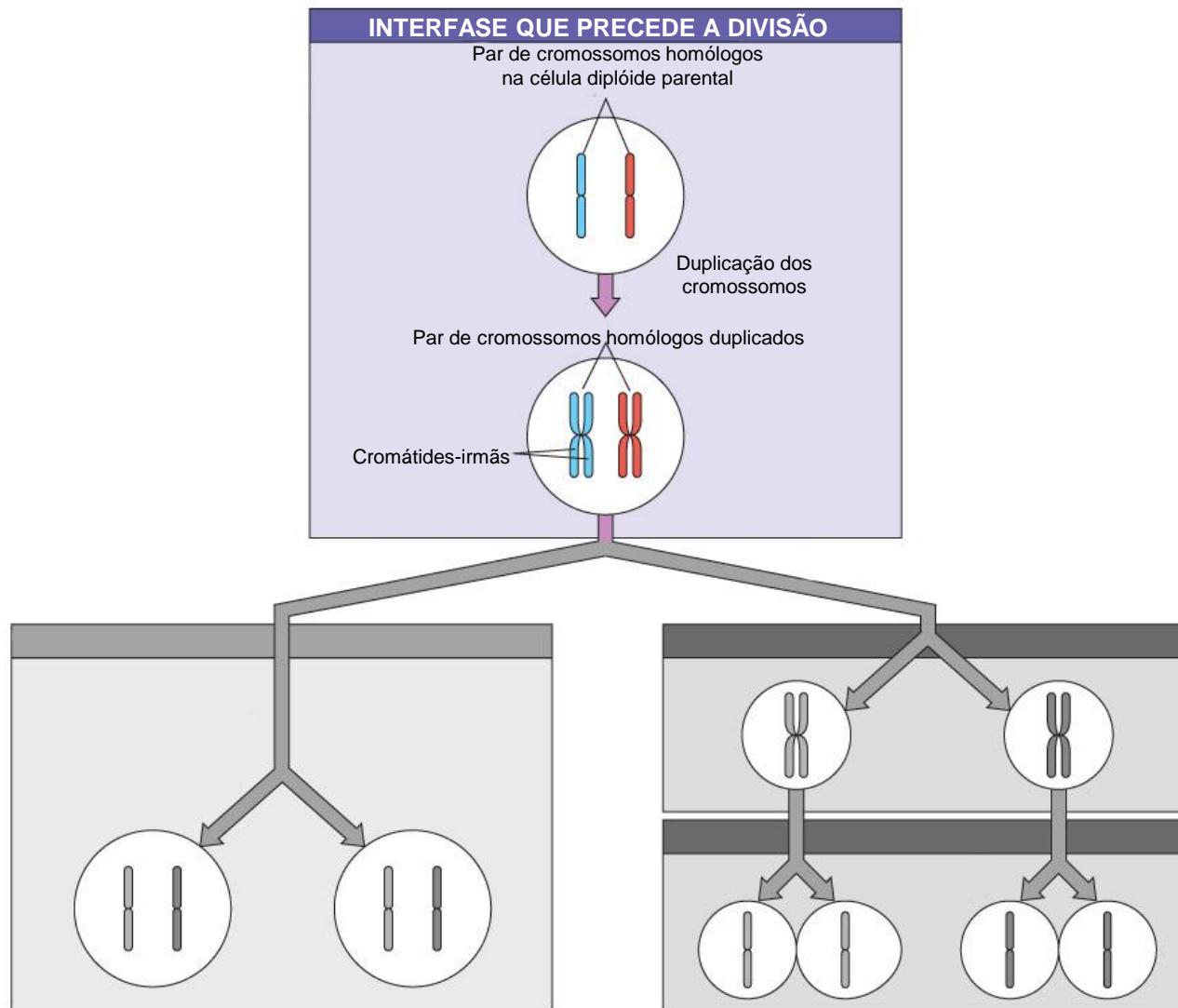
Célula Animal



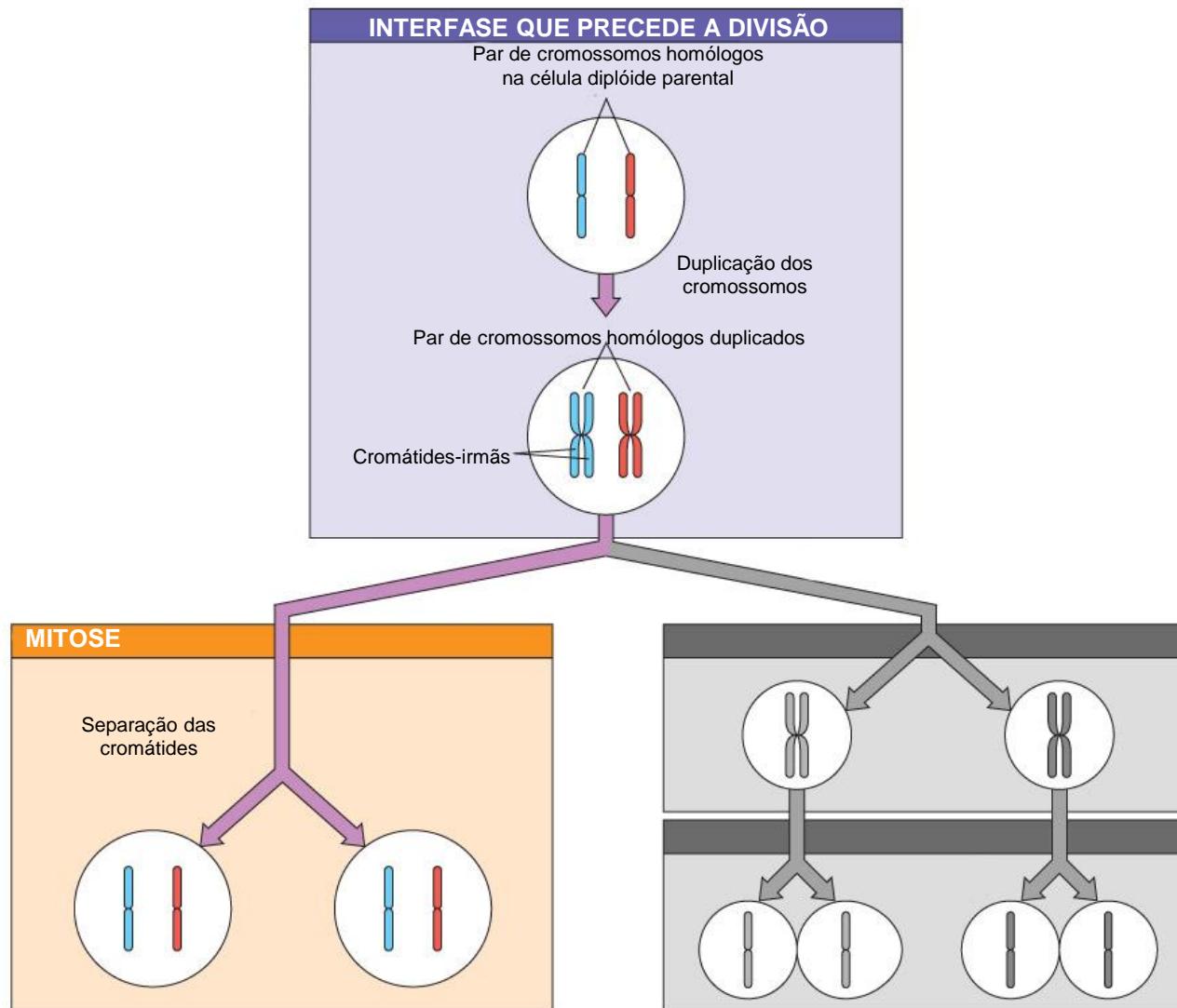
MITOSE E MEIOSE



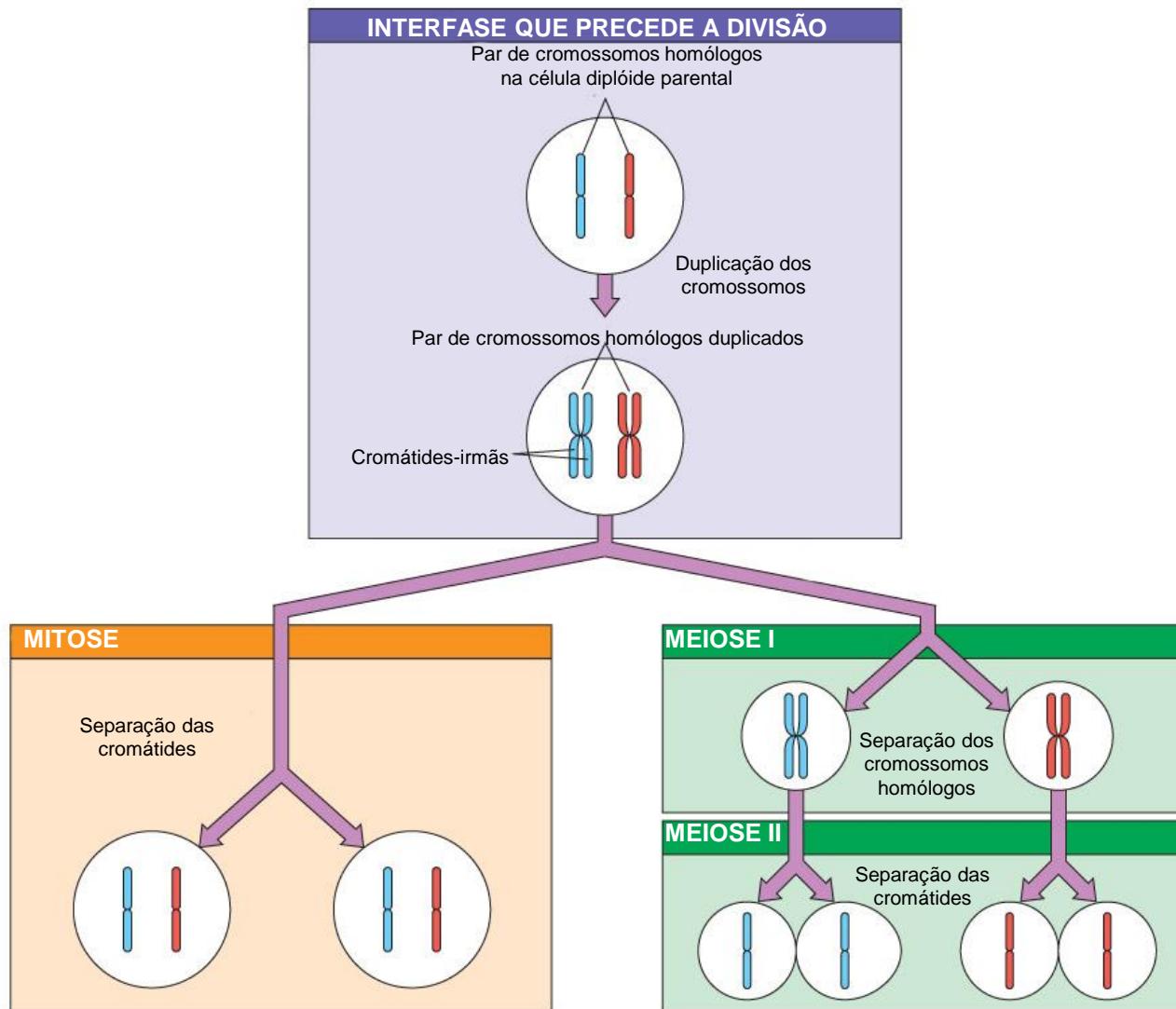
MITOSE E MEIOSE



MITOSE E MEIOSE



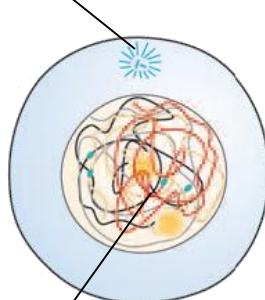
MITOSE E MEIOSE



FASES DA MEIOSE

Intérface (G_1)

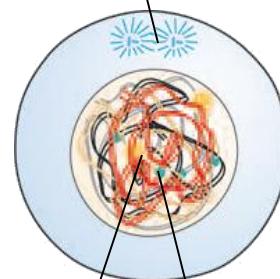
Centrossomo



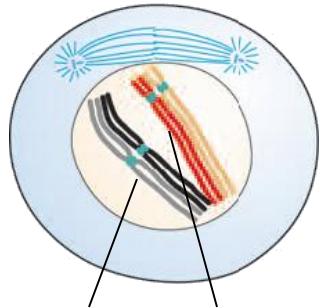
Nucléolo

Intérface (G_2)

Centrossomo duplicado



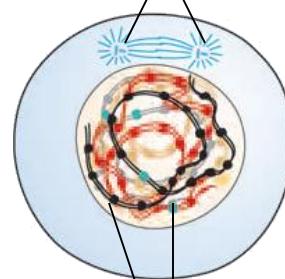
Cromossomos duplicados



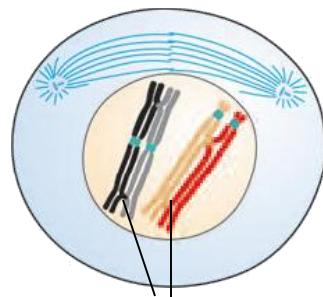
Tétrades ou bivalentes

Prófase I
(leptóteno)

Separação dos centrossomos



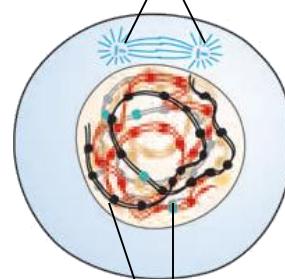
Cromômeros



Quiasmas

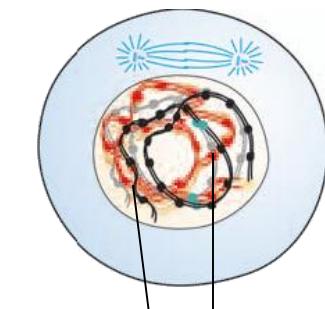
Prófase I
(diacinese)

Terminalização dos quiassmas

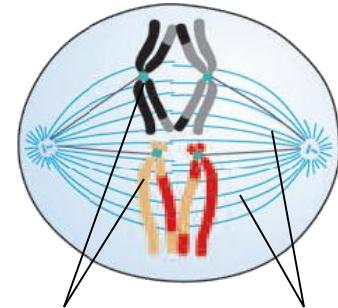


Prófase I
(paquíteno)

Prófase I
(zigóteno)



Emparelhamento dos cromossomos



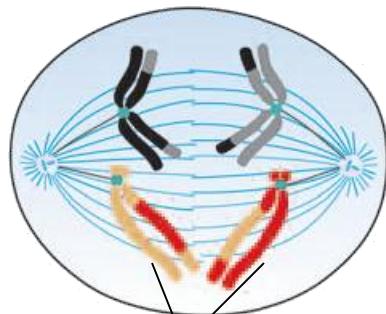
Cromossomos ligados ao fuso

Fibras do fuso

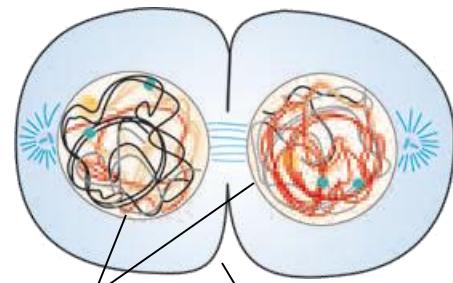
Metáfase I

FASES DA MEIOSE

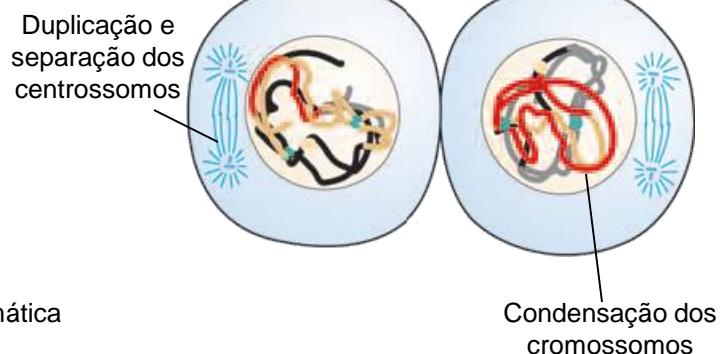
Anáfase I



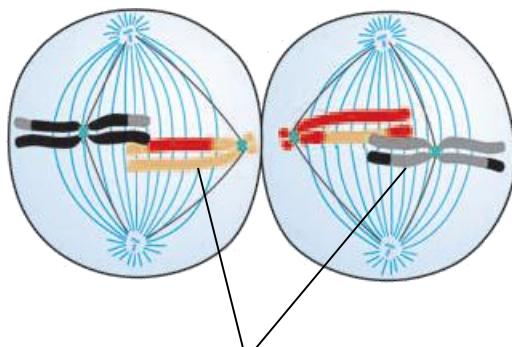
Telófase I



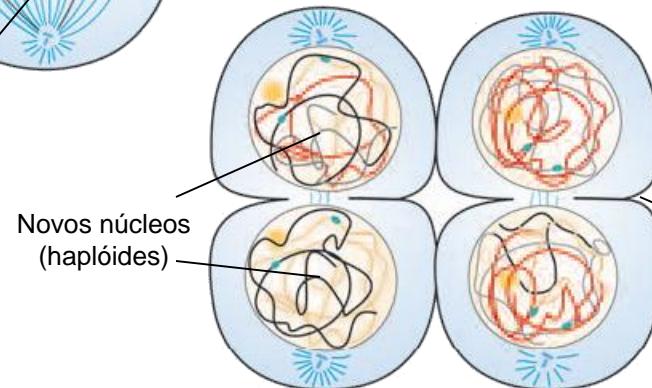
Prófase II



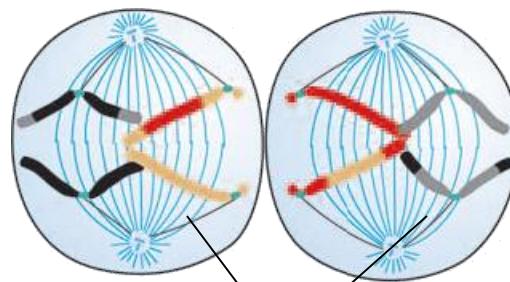
Metáfase II



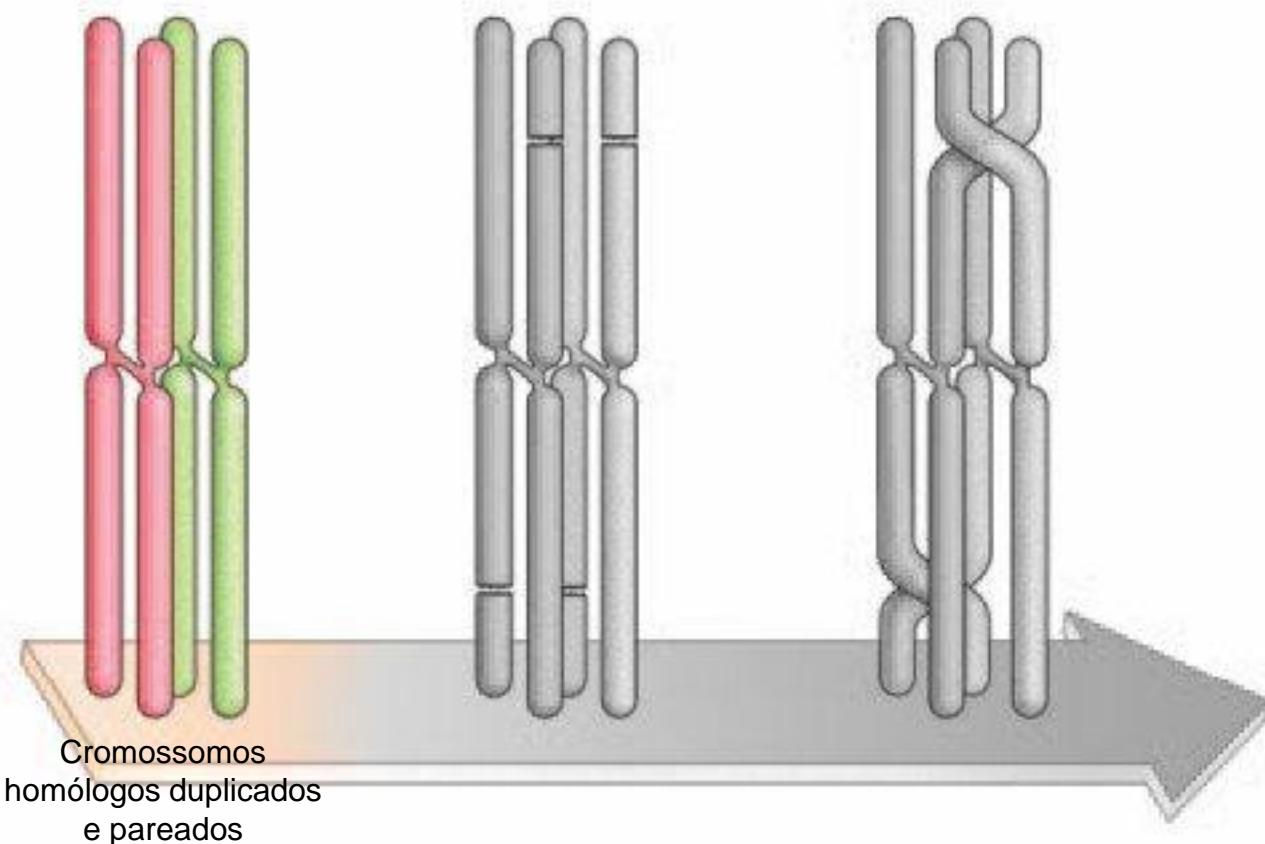
Telófase I



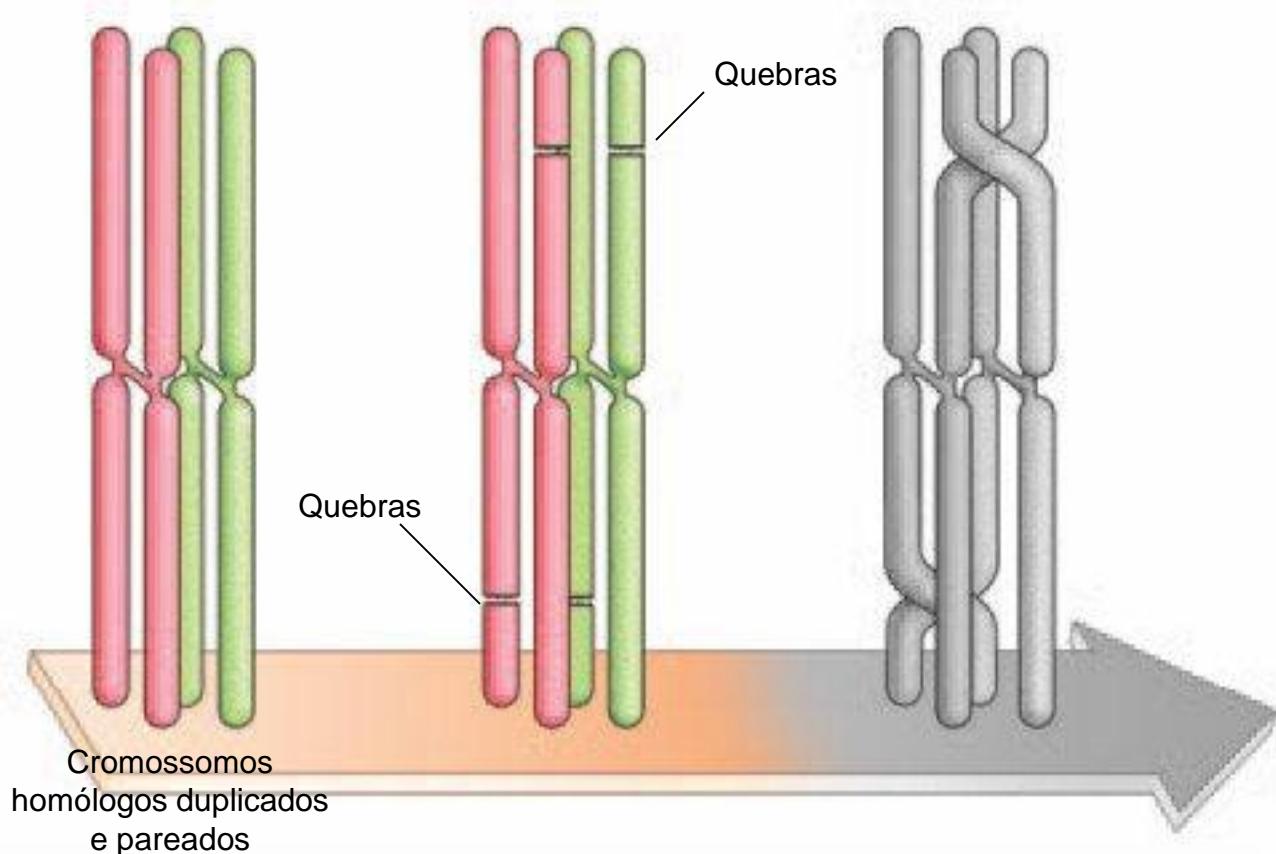
Anáfase I



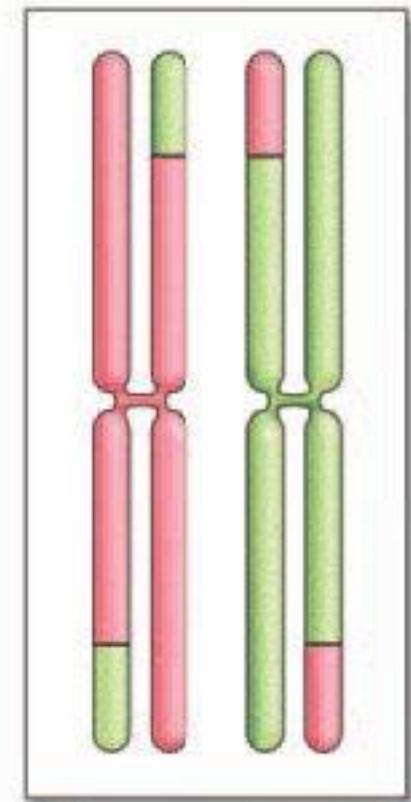
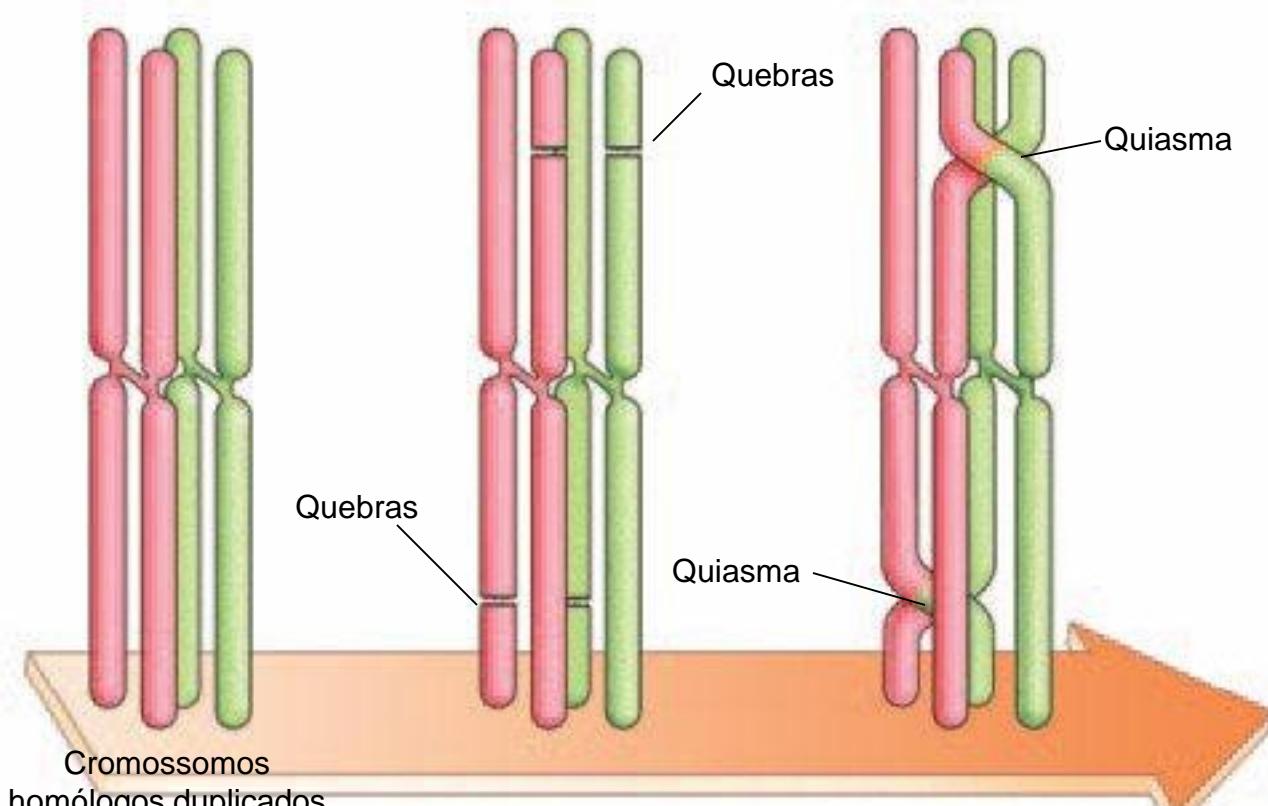
PERMUTAÇÃO



PERMUTAÇÃO

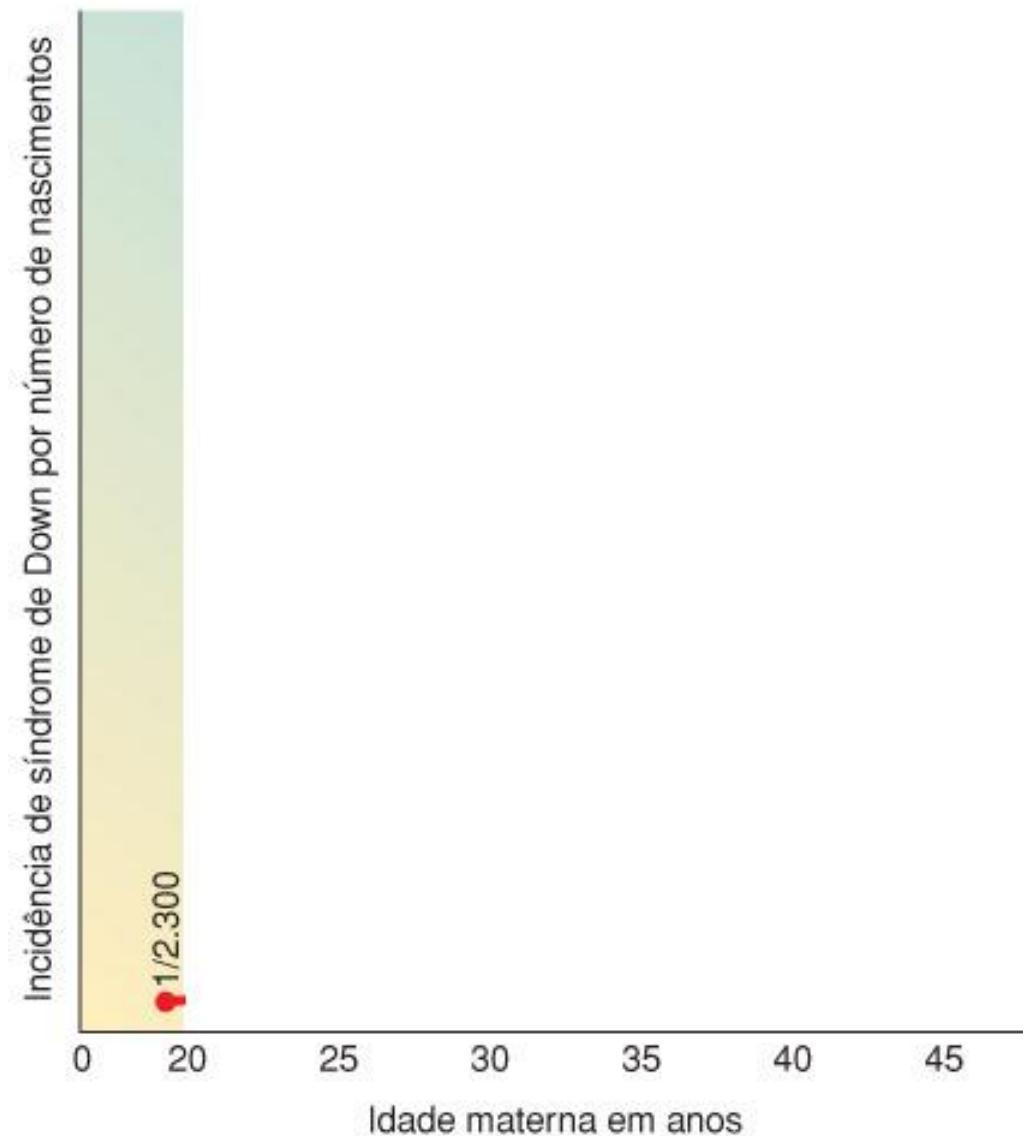


PERMUTAÇÃO

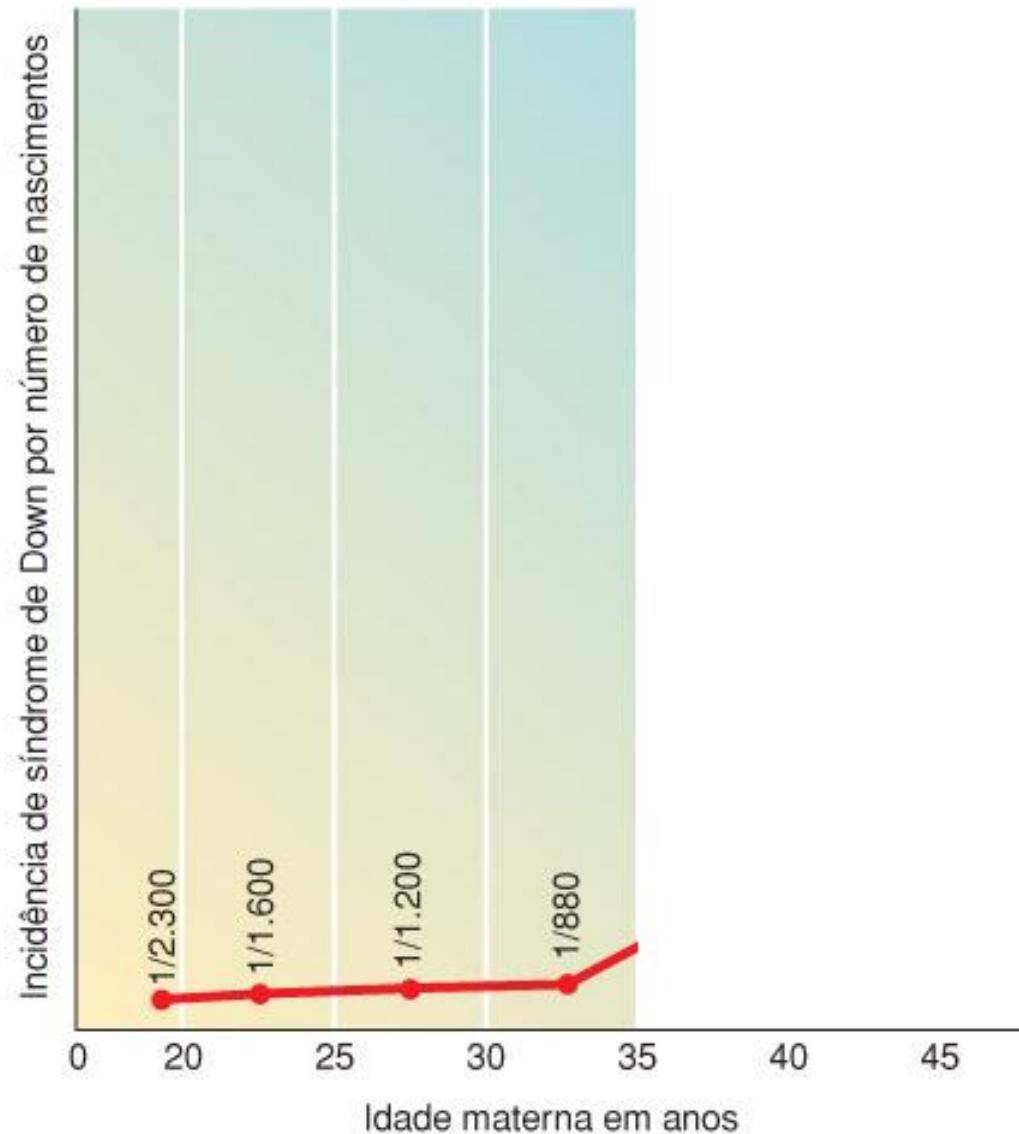


Resultado das permutações

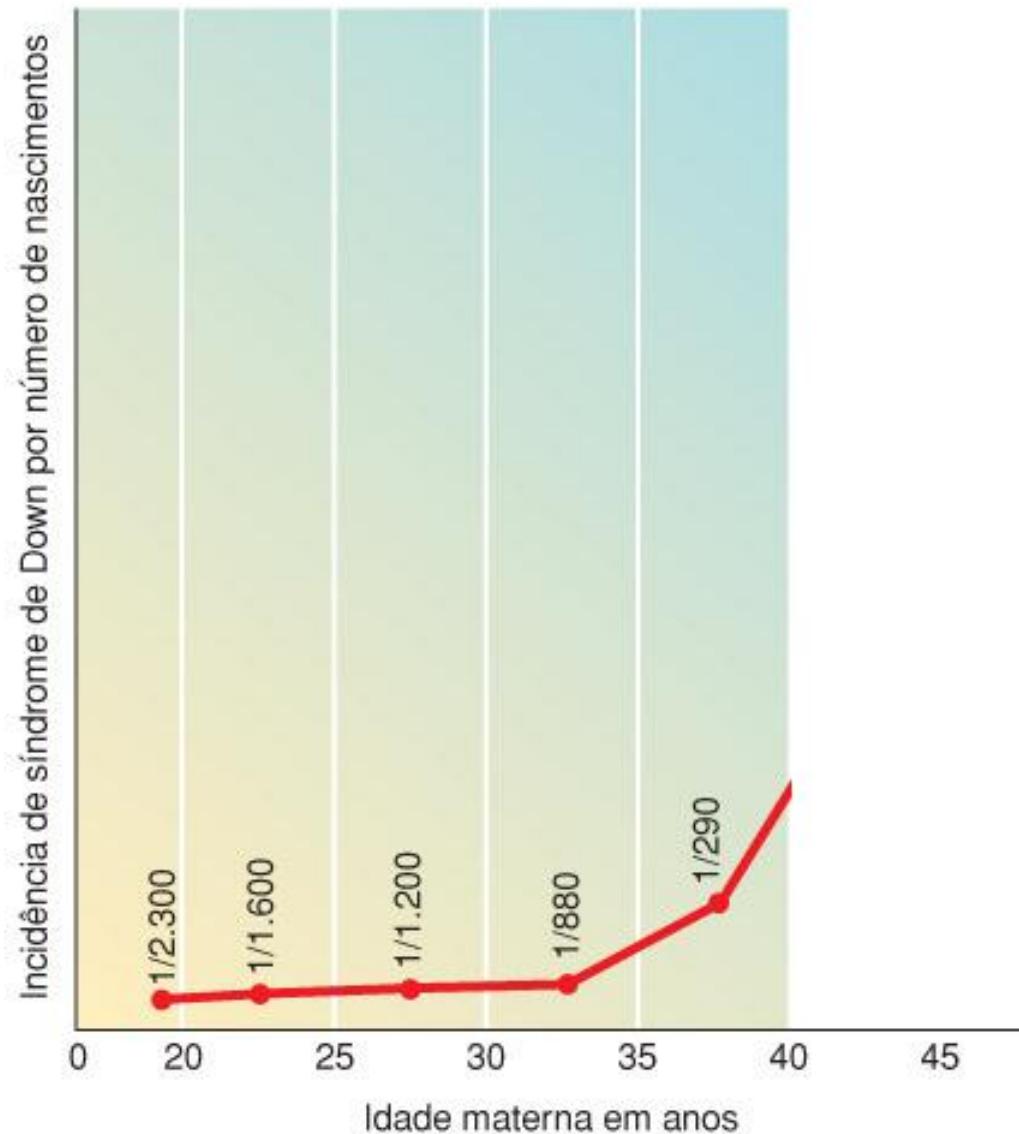
IDADE MATERNA E SÍNDROME DE DOWN



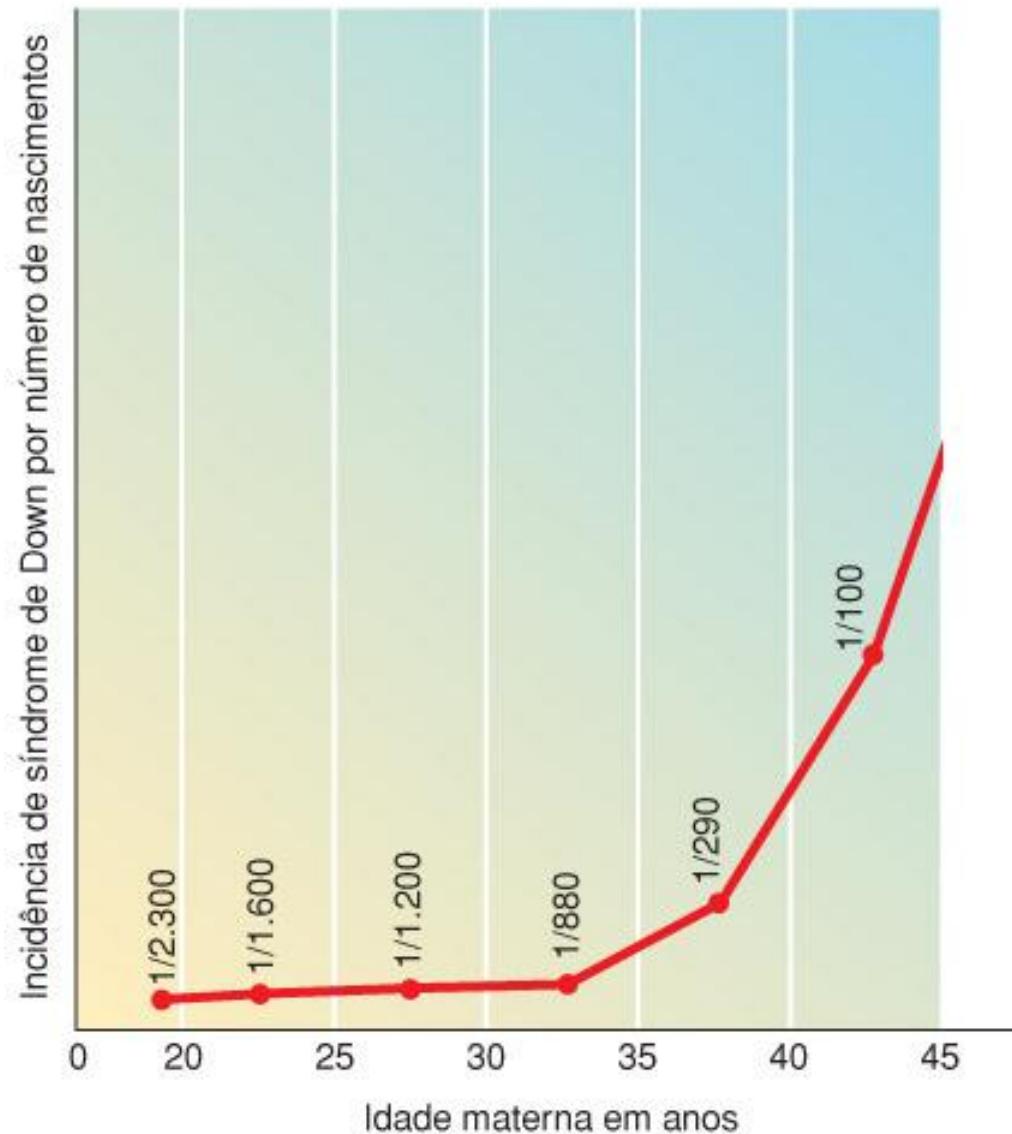
IDADE MATERNA E SÍNDROME DE DOWN



IDADE MATERNA E SÍNDROME DE DOWN



IDADE MATERNA E SÍNDROME DE DOWN



IDADE MATERNA E SÍNDROME DE DOWN

