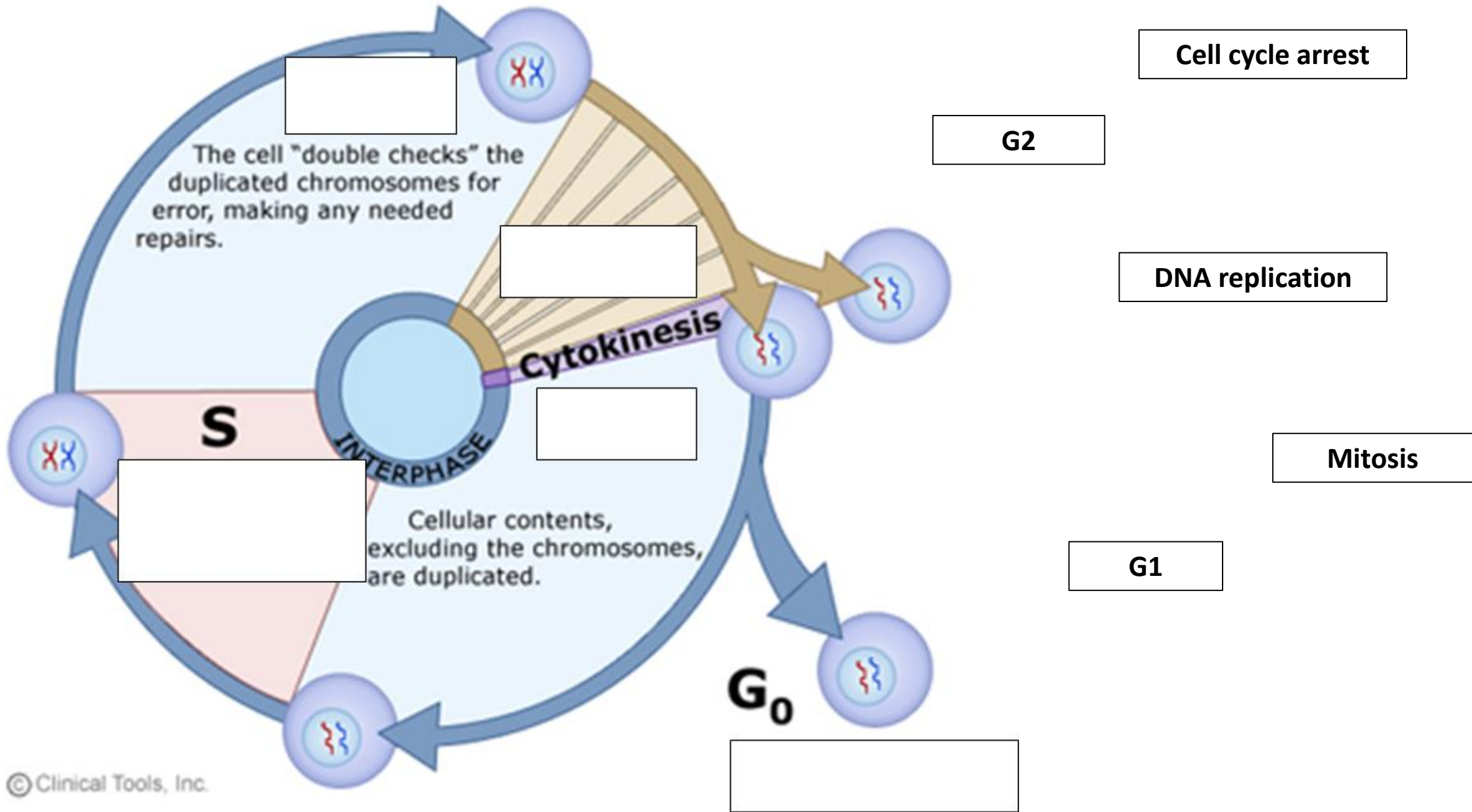
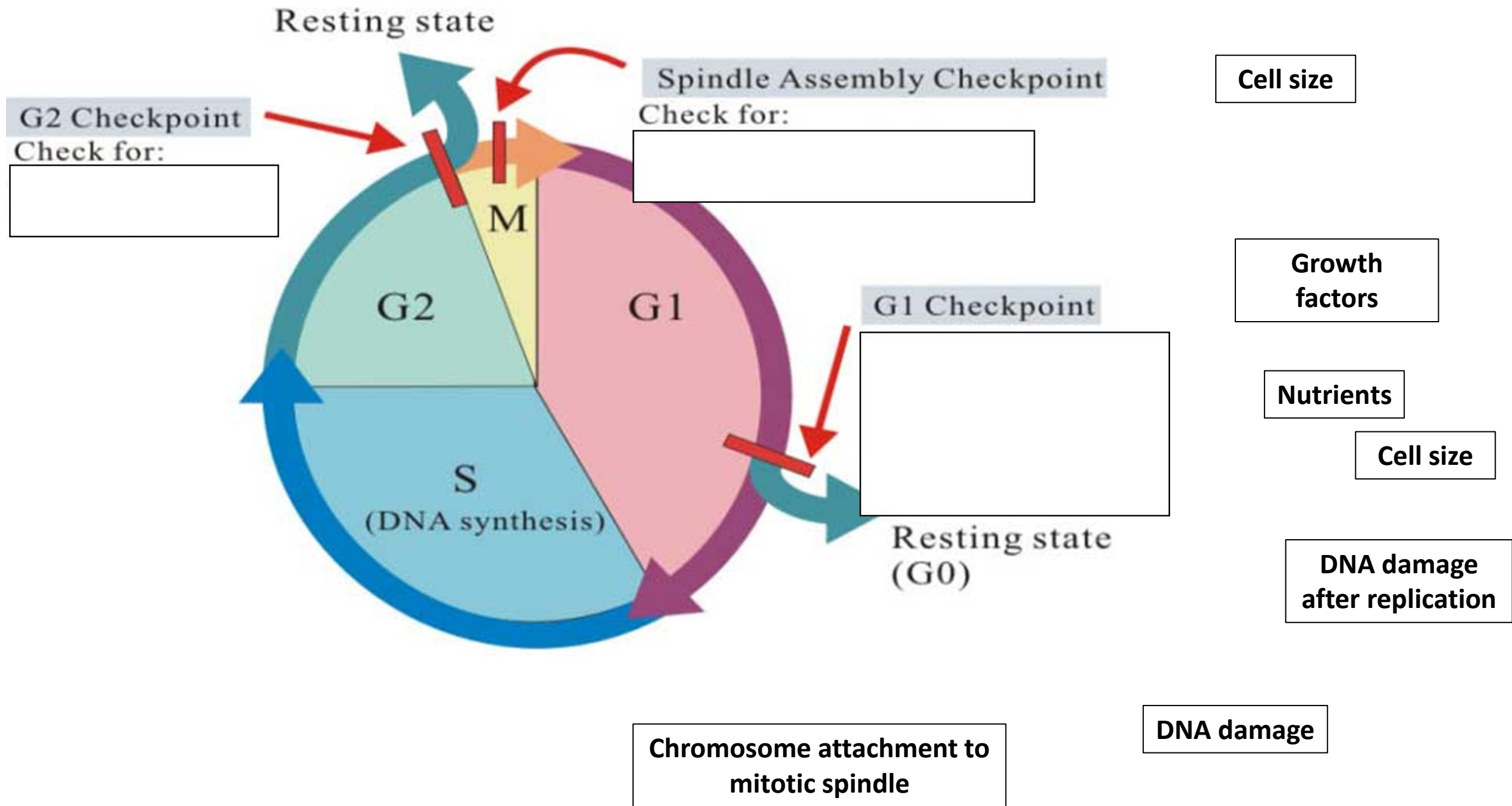


Proliferation	
Hypertrophy	
S phase	
Kariokinesis	
Cytokinesis	
Mitotic spindle	
Contractile ring	
Acretion	
Bookmarking	
CDKs	
Cell cycle inhibitors	
pRB	
p53	
ATM and ATR kinases	
Nuclear envelope disintegration	
MPF	

Guardian of the genome
Proteins that block CDK activity
Actin and myosin
Main kinases involved in DNA repair
Phosphorylation of lamins
Kinases that regulate cell cycle
Division of chromosomes
Centrosomes and microtubules
Epigenetic pattern inheritance
Enlargement of extracellular matrix
Multiplication of cell number
Mitosis promoting factor
Binds E2F
Division of cytoplasm
Enlargement of cell size
DNA replication





Complex	Cyclin	Cdk
	<b>cyclin D</b>	<b>Cdk4, Cdk6</b>
<b>G1/S-Cdk</b>		
	<b>cyclin A</b>	
	<b>cyclin B</b>	<b>Cdk1 (Cdc2)</b>

**Cdk2**

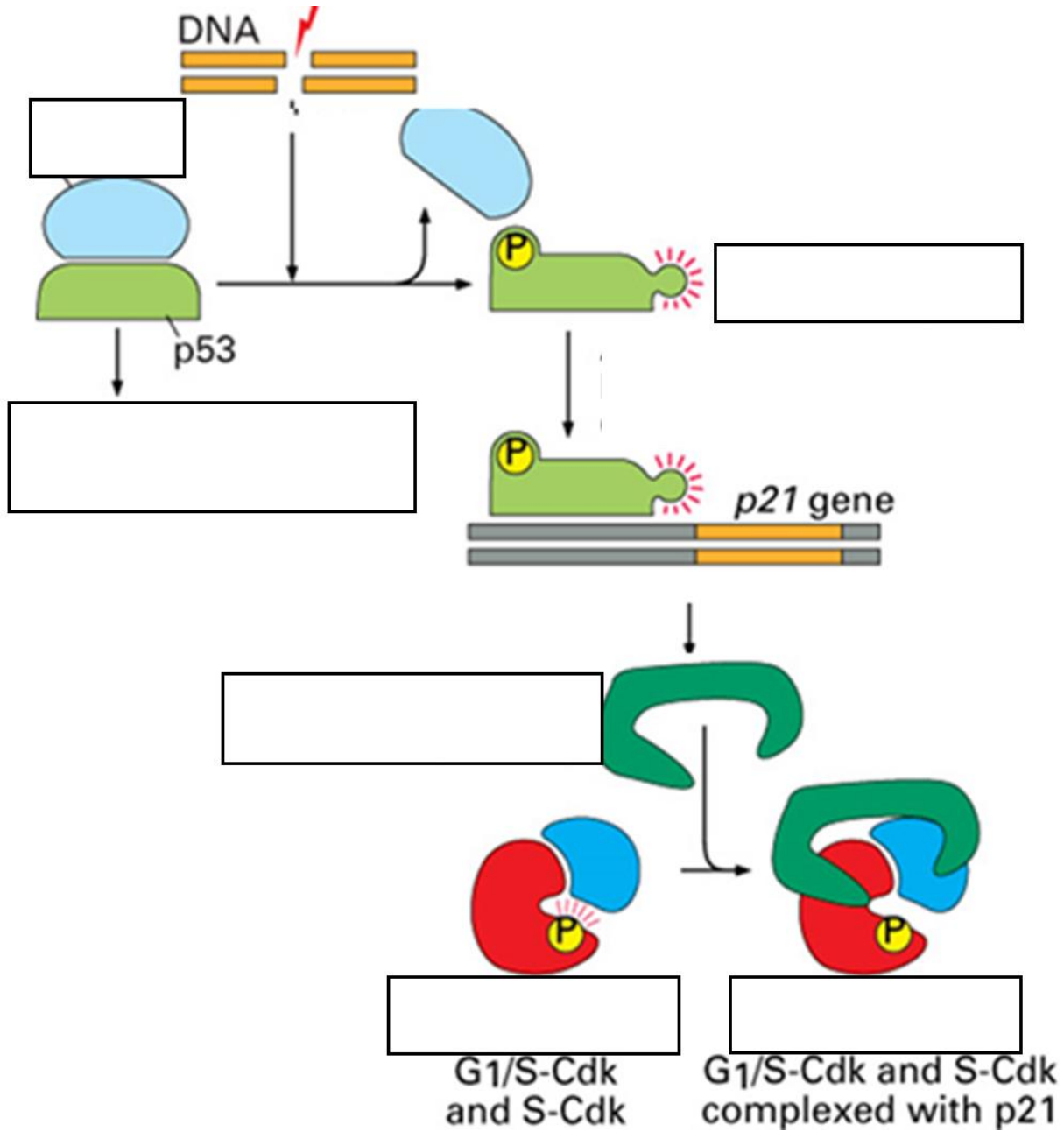
**M-Cdk**

**Cdk2**

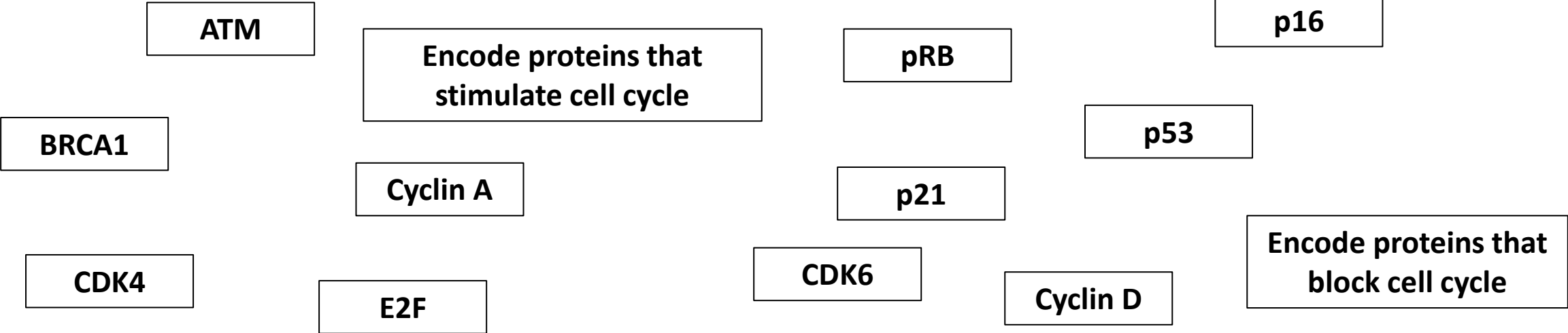
**G1-Cdk**

**cyclin E**

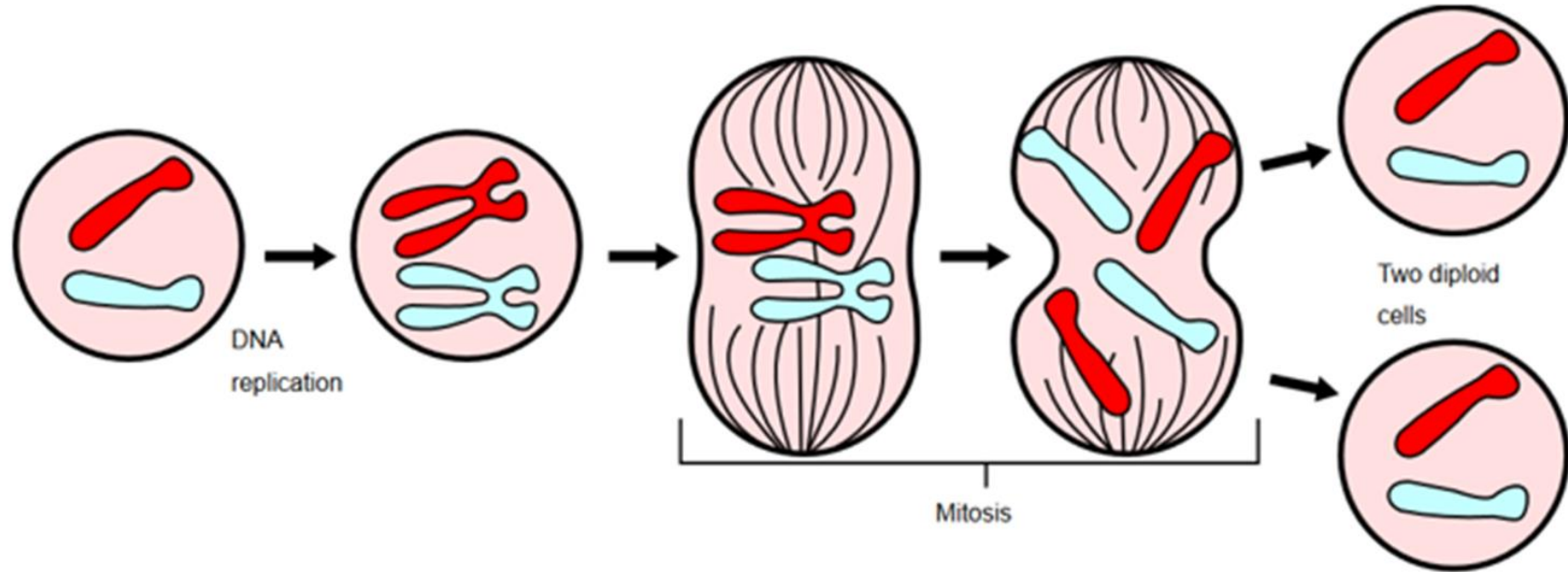
**S-Cdk**



Protooncogenes	Supressor genes



# Chromosome number in human cell during mitosis



Chromosome number

46

?

?

?

Chromatid number

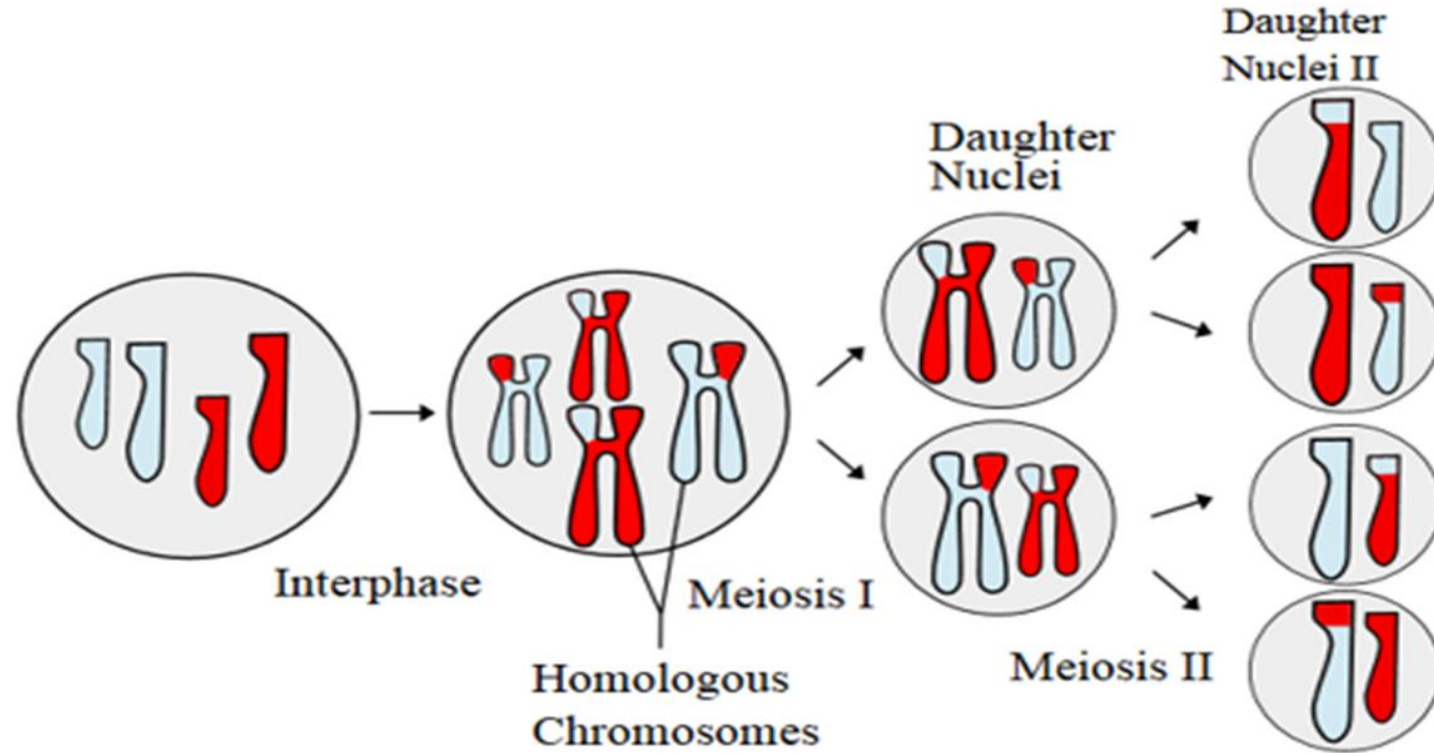
46

?

?

?

# Chromosome number in human cell during meiosis



Chromosome number

46

?

?

?

Chromatid number

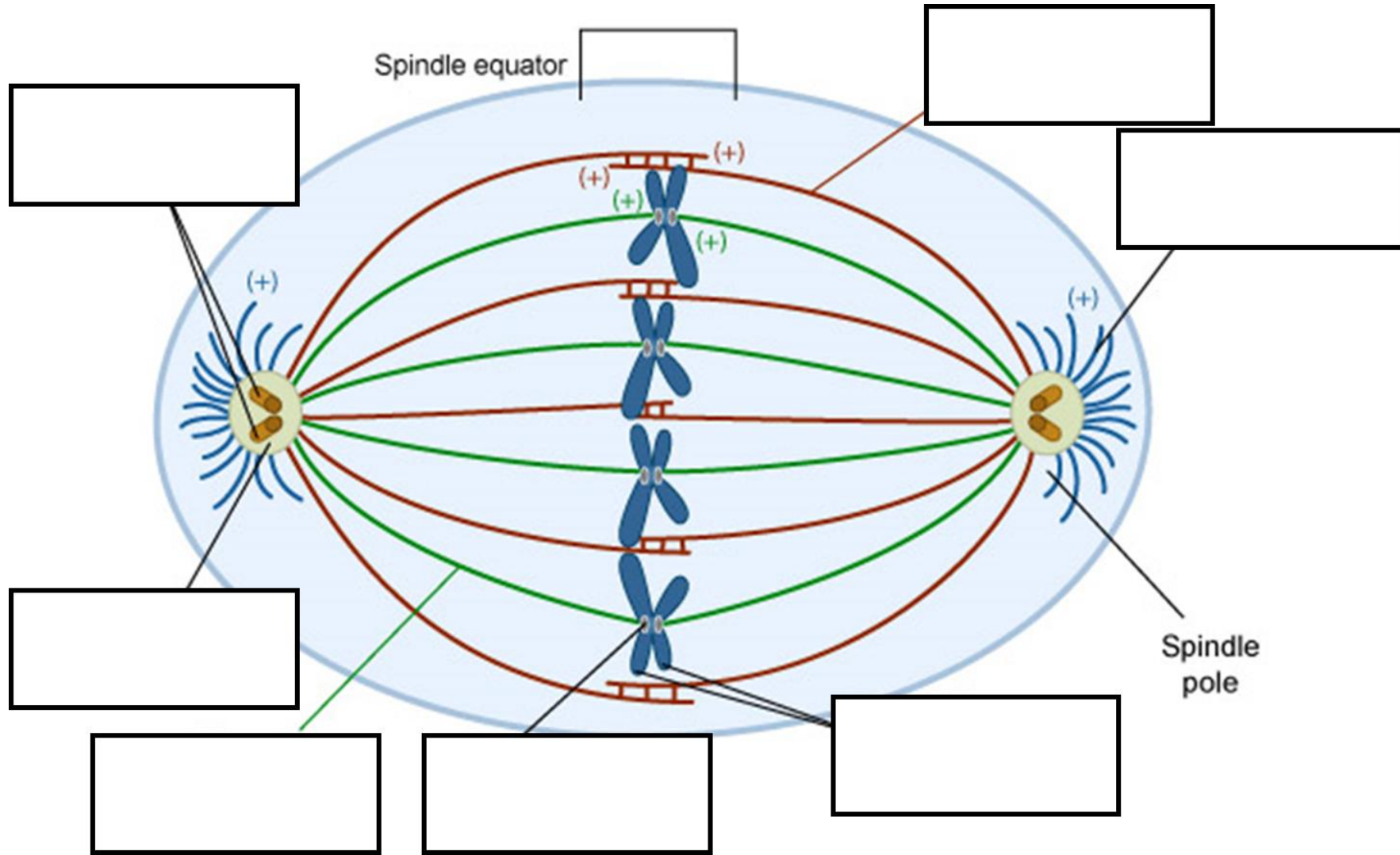
46

?

?

?





Centrioles

Polar  
microtubules

Astral  
microtubules

Sister  
chromatids

Kinetochores

Kinetochores  
microtubules

Centrosome