

Tishk International University
Faculty of Applied Science
Nutrition and Dietetics Department



Cell Division and Interphase

Human Biology / 4th Lecture
1st Grade / Fall Semester
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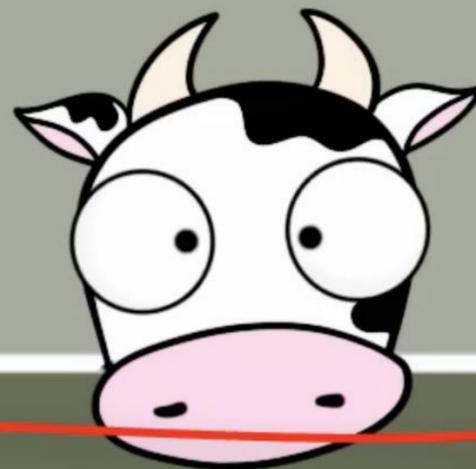
Modern Cell Theory

The cell is the smallest living unit in all organisms.

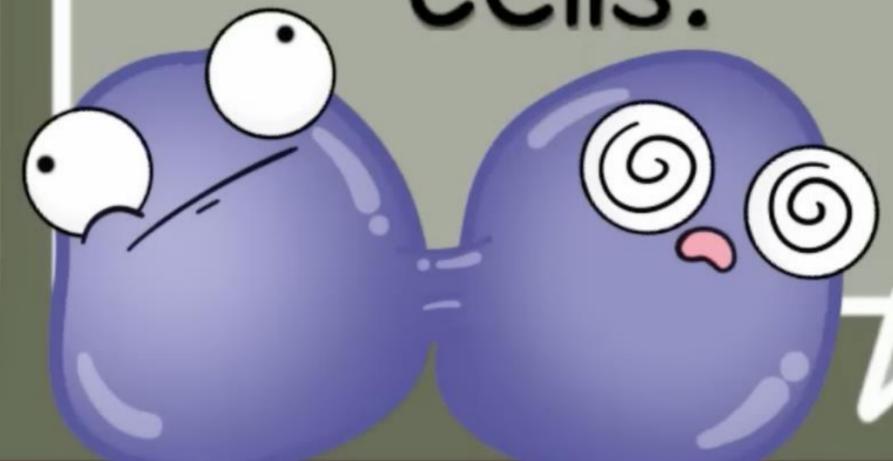


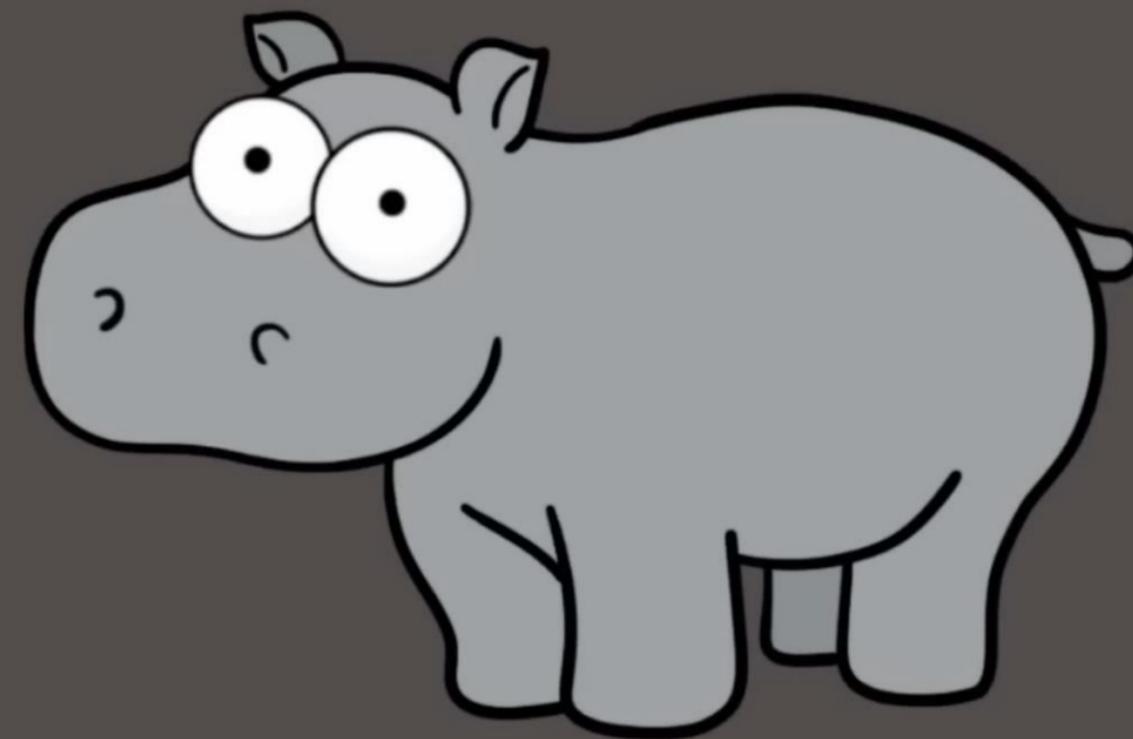
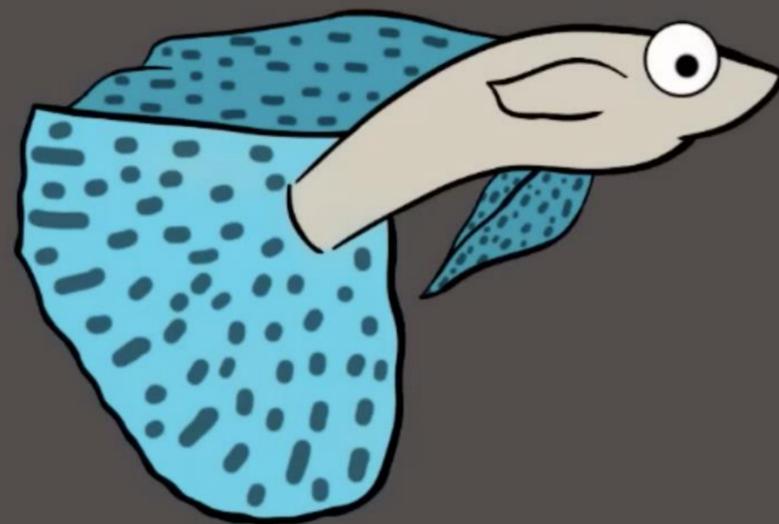
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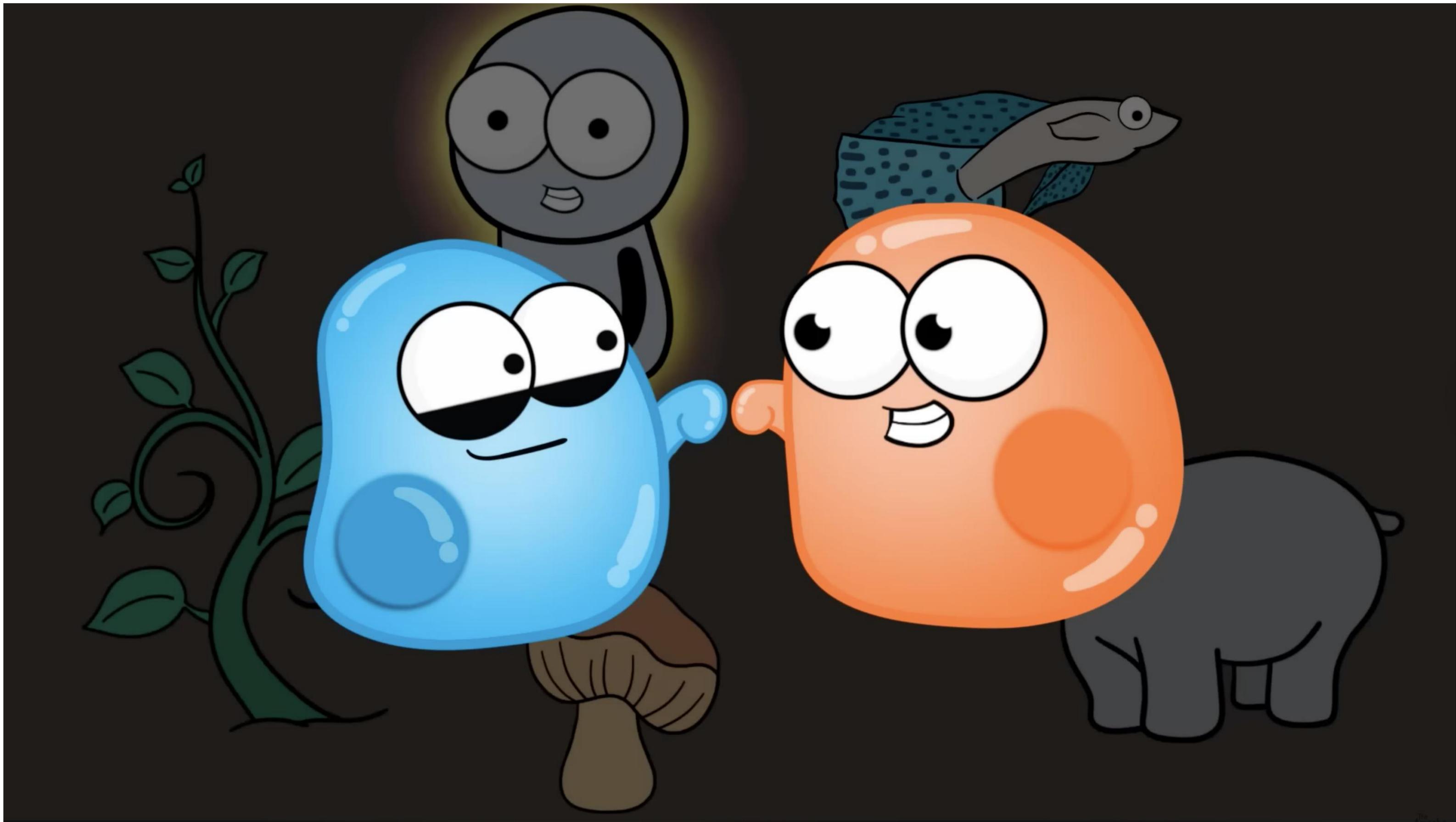
All living things are made of cells.

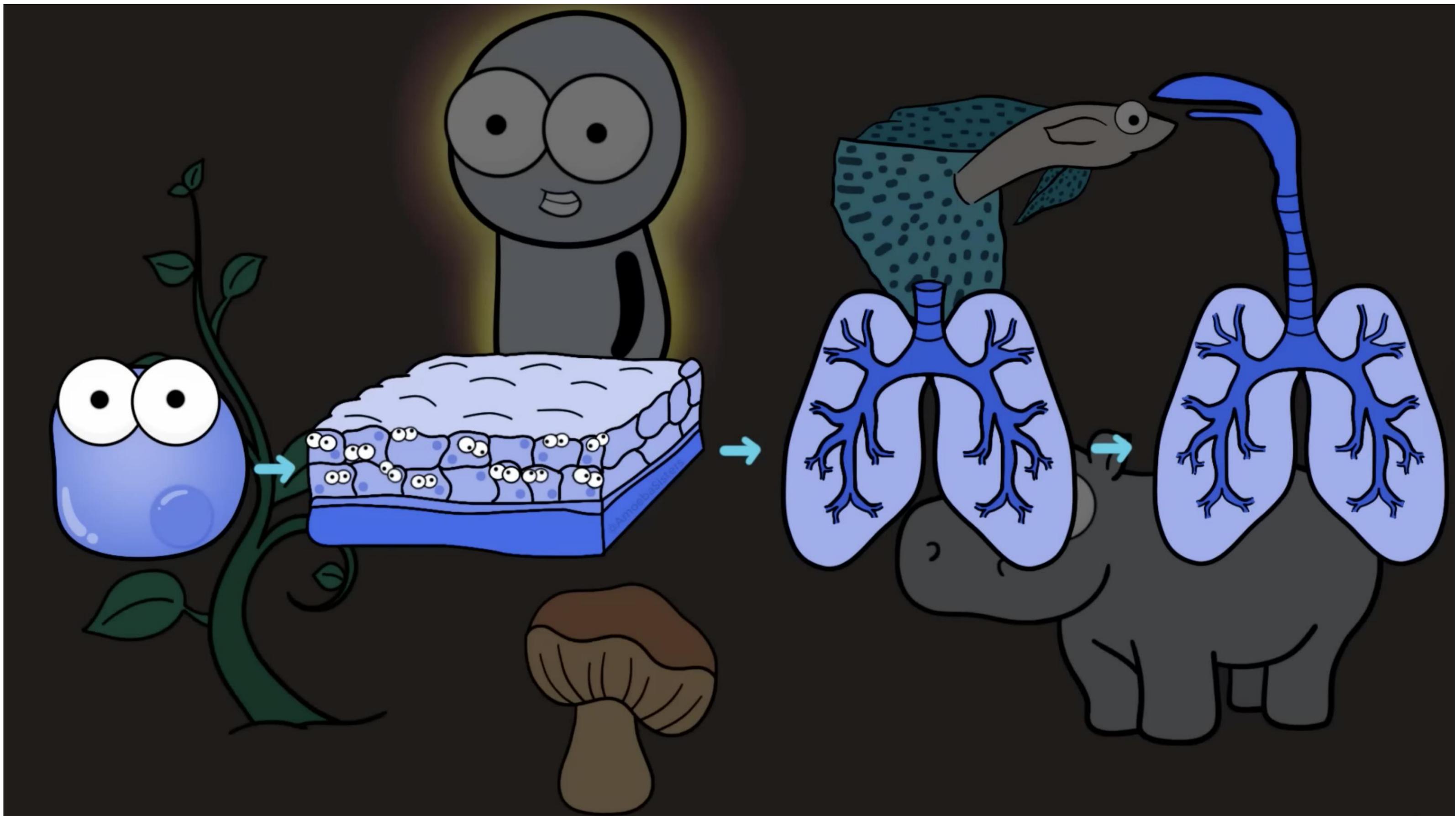


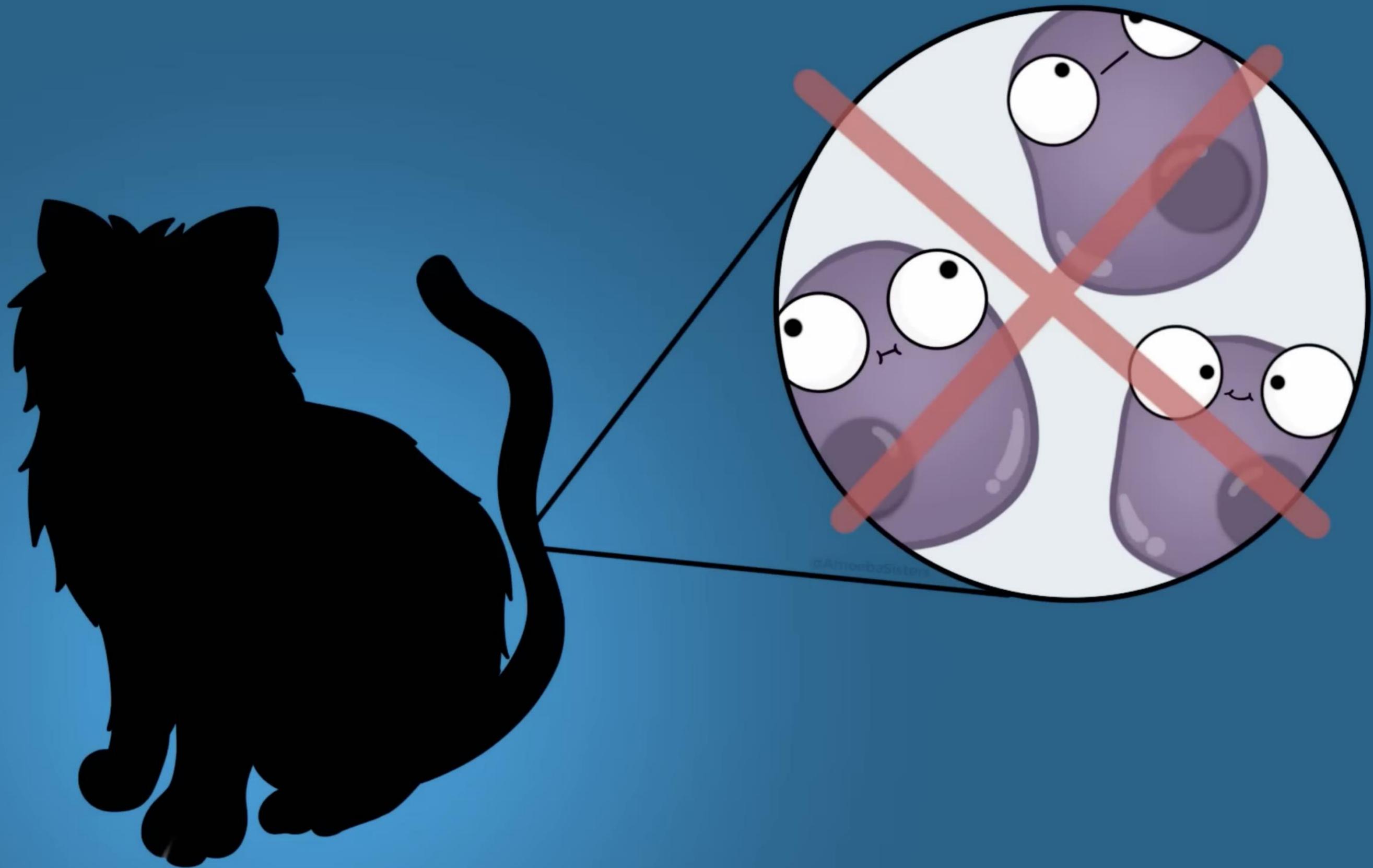
All cells come from other pre-existing cells.



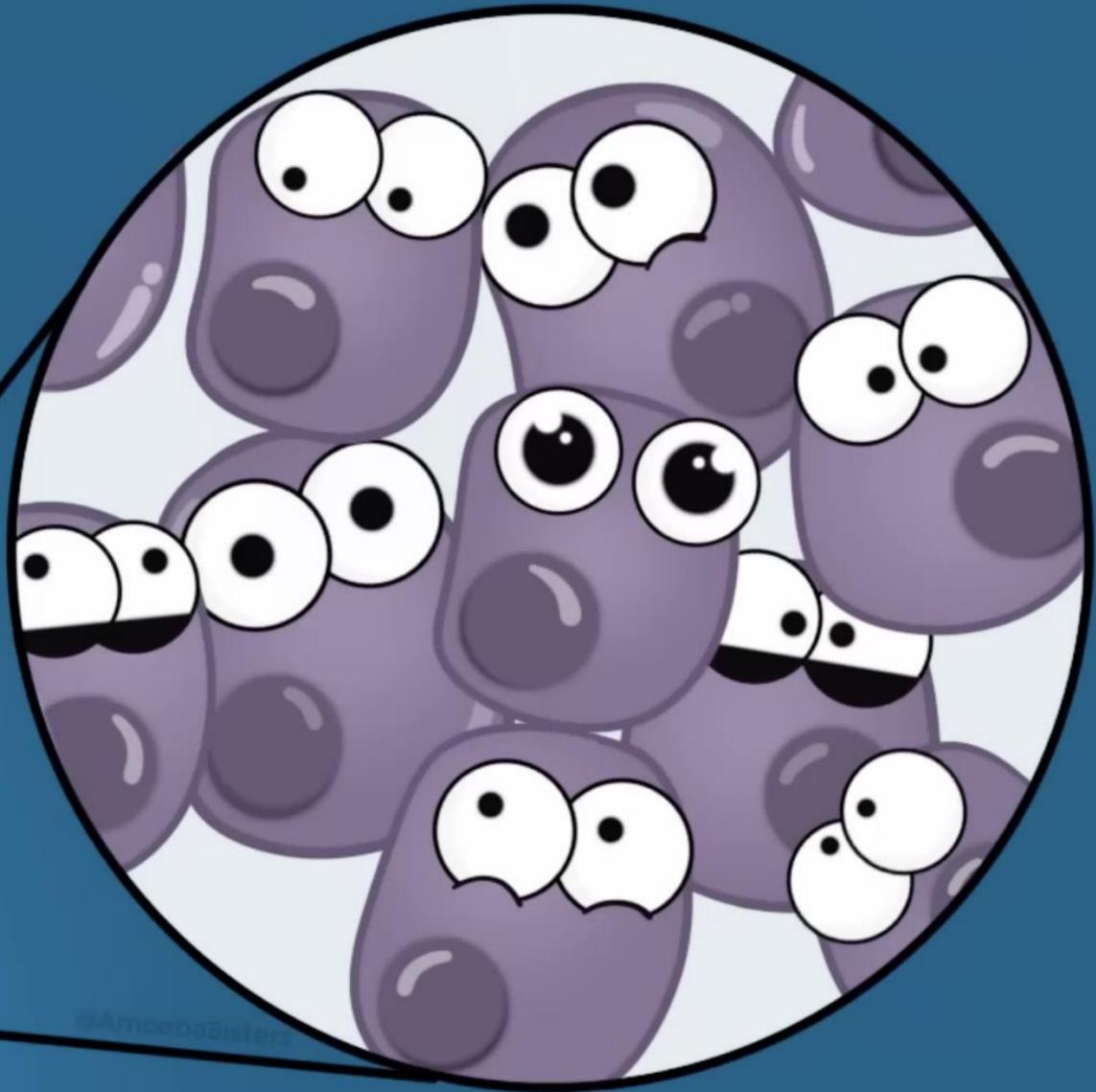




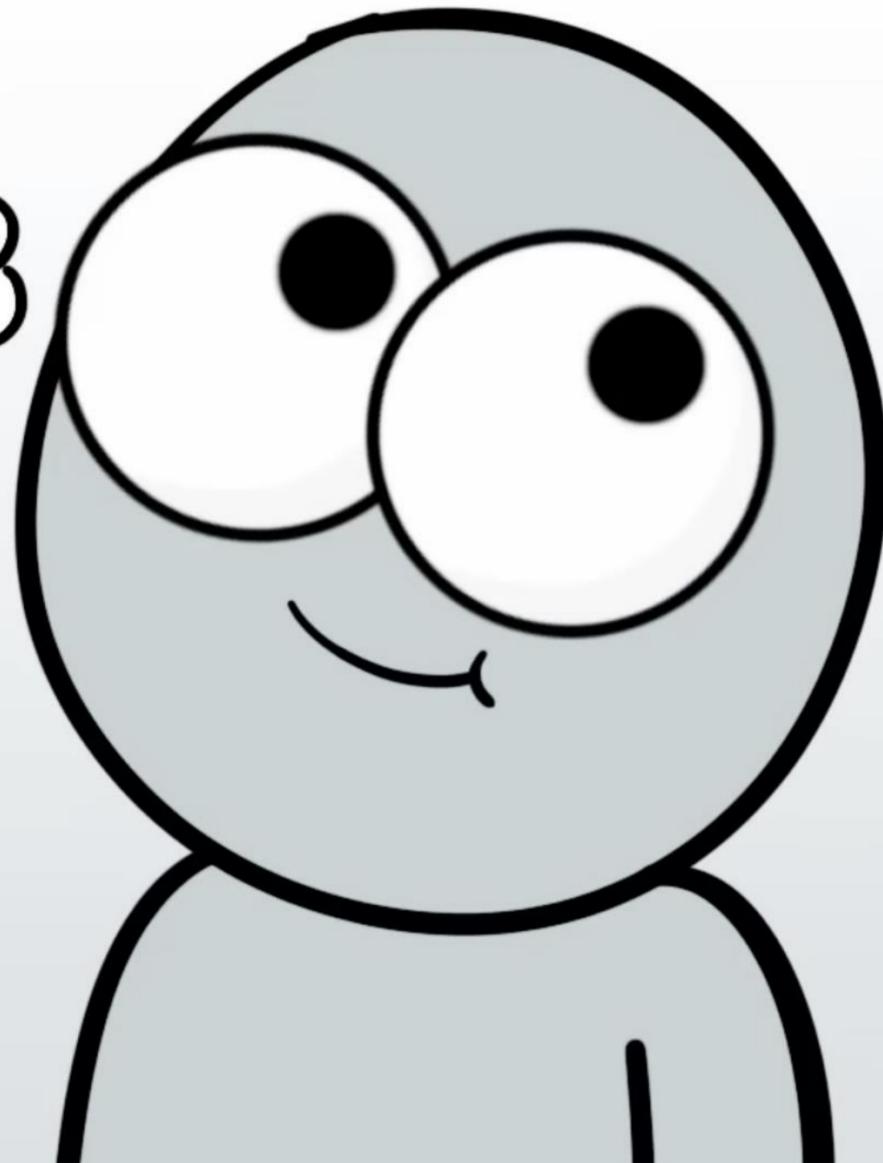
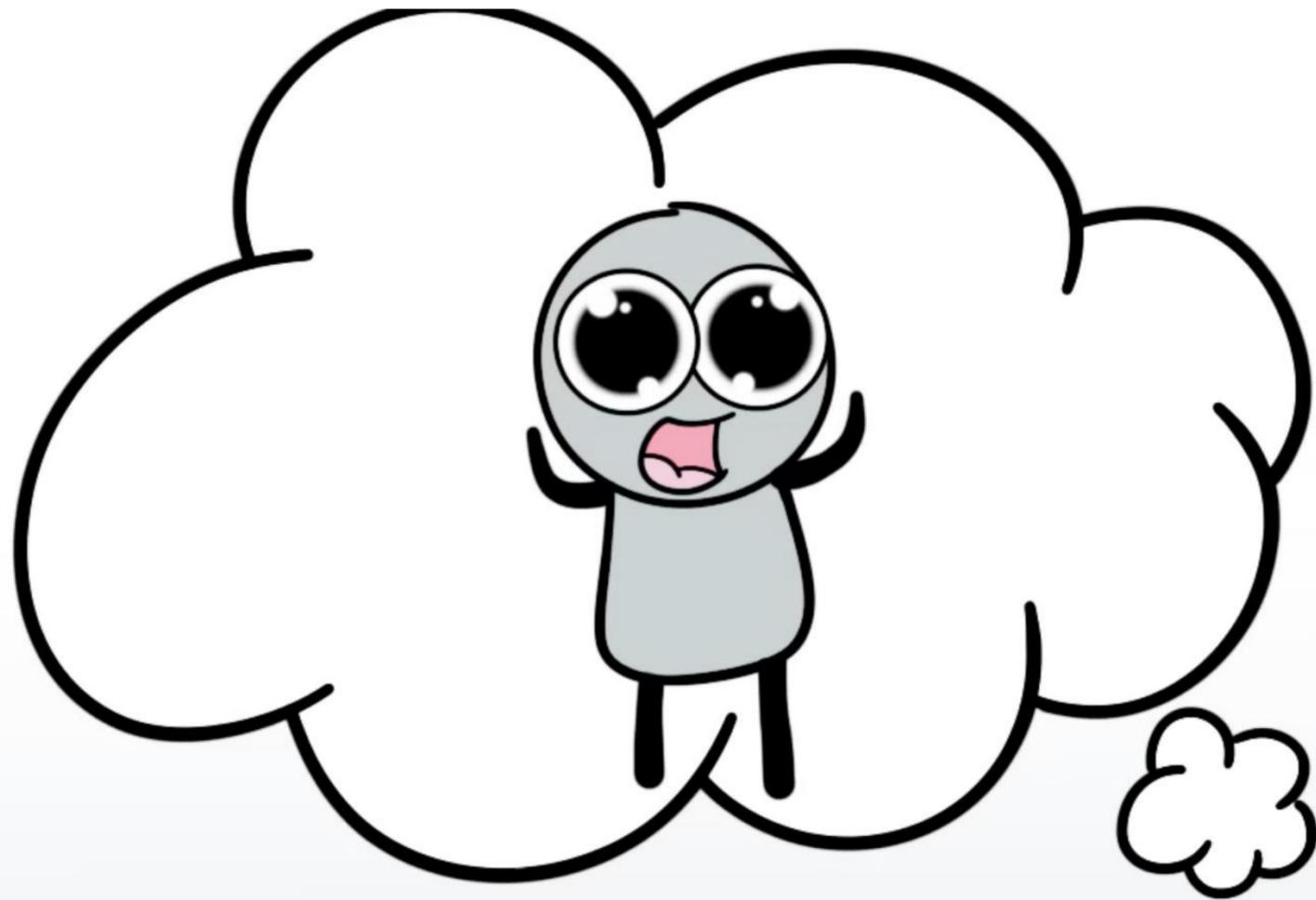


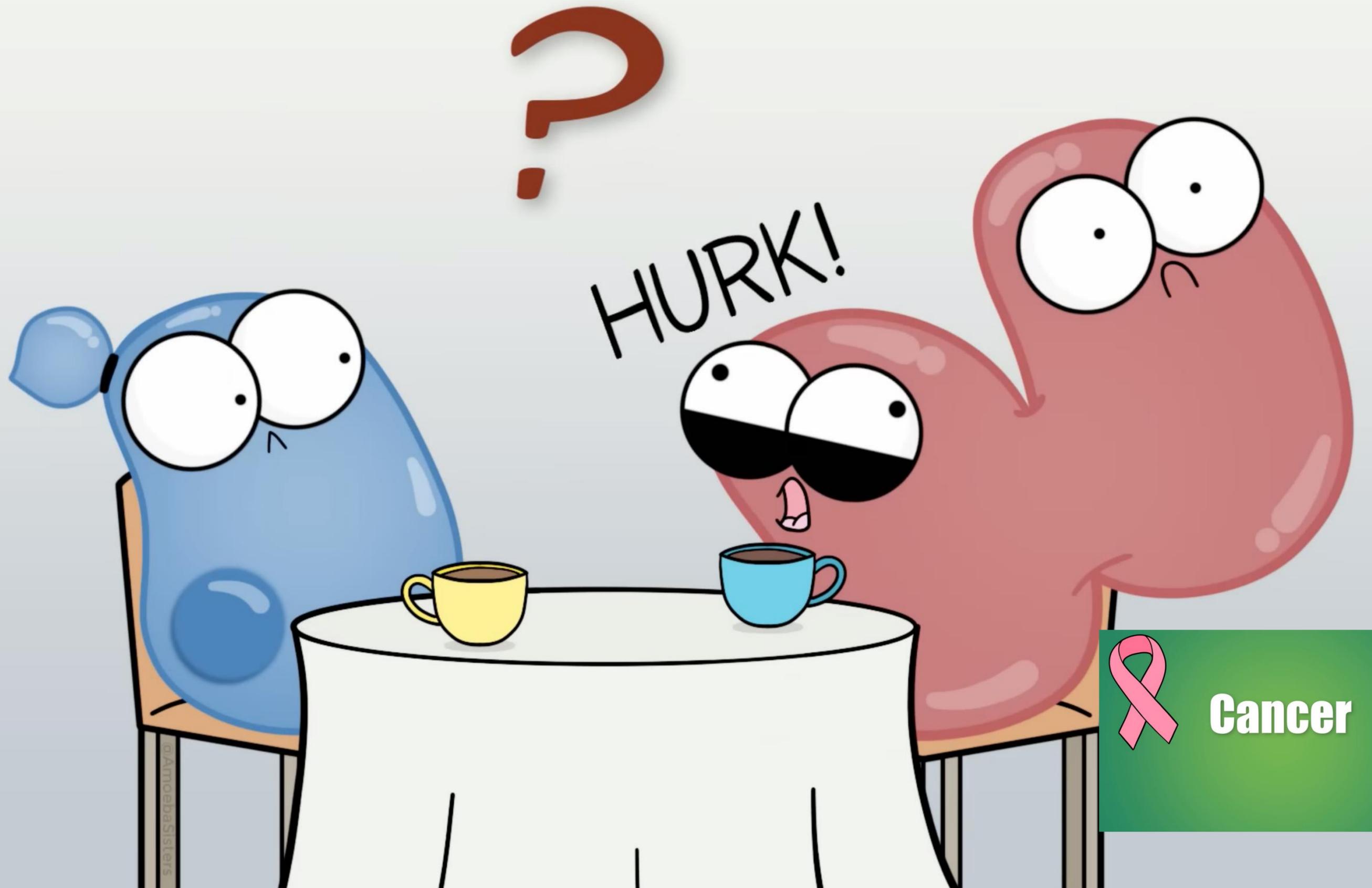


CELL DIVISION

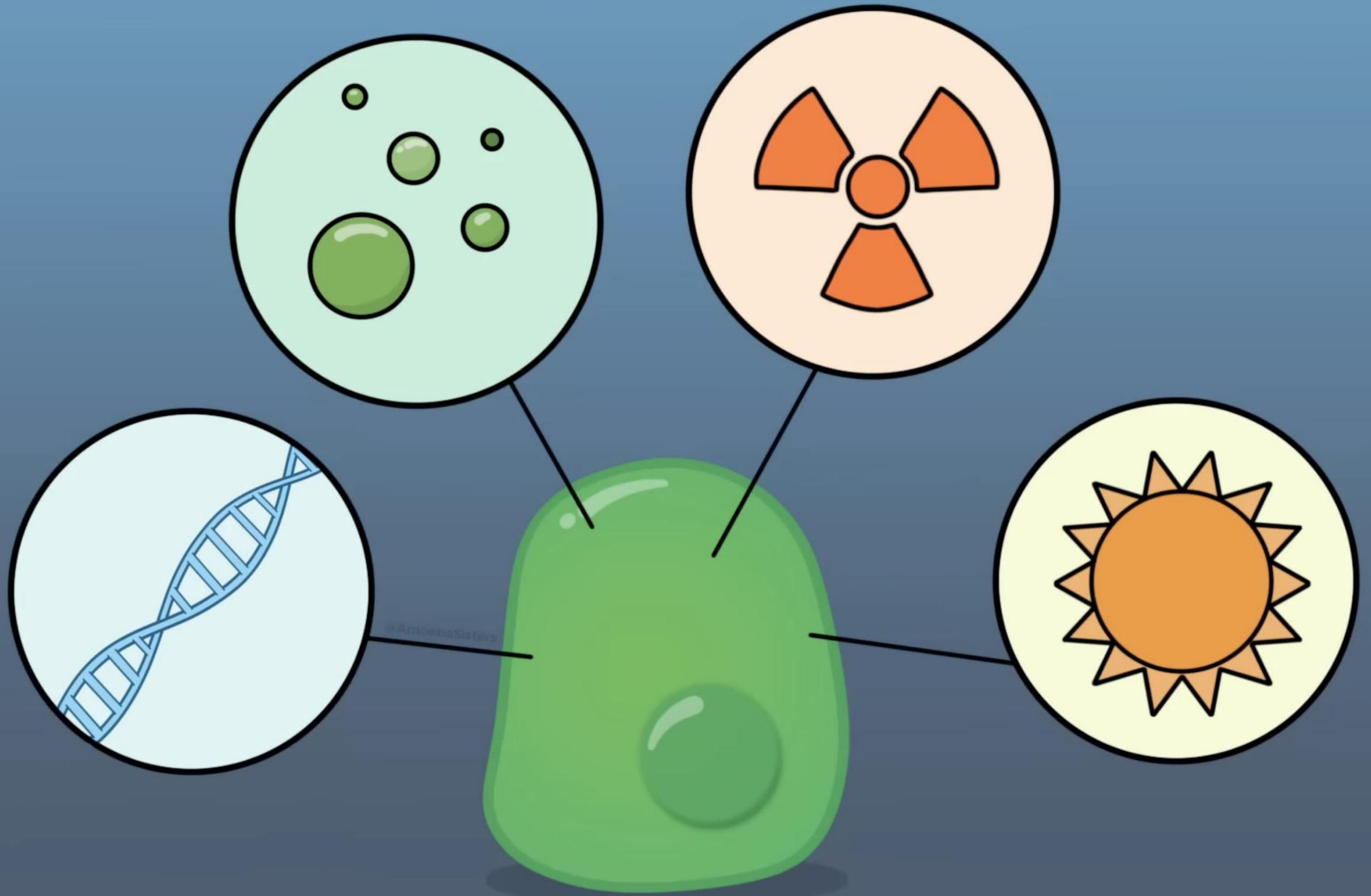


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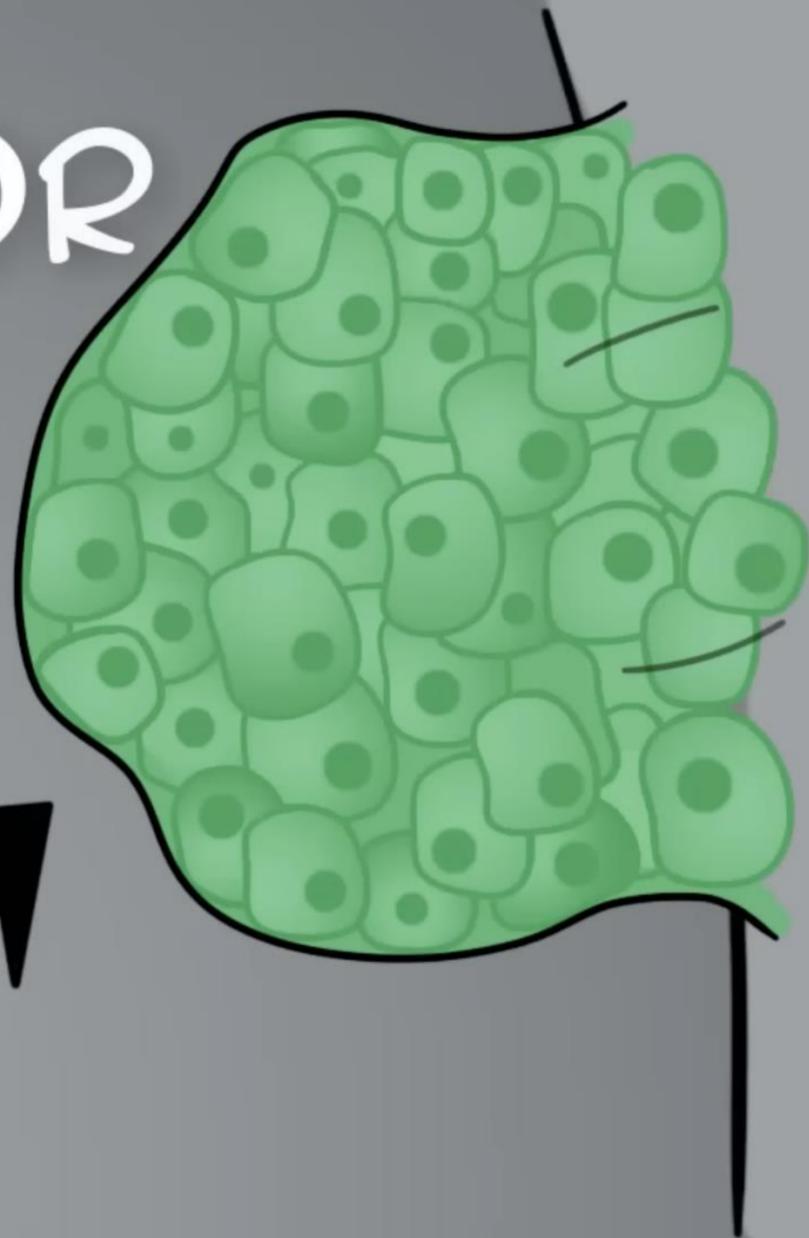


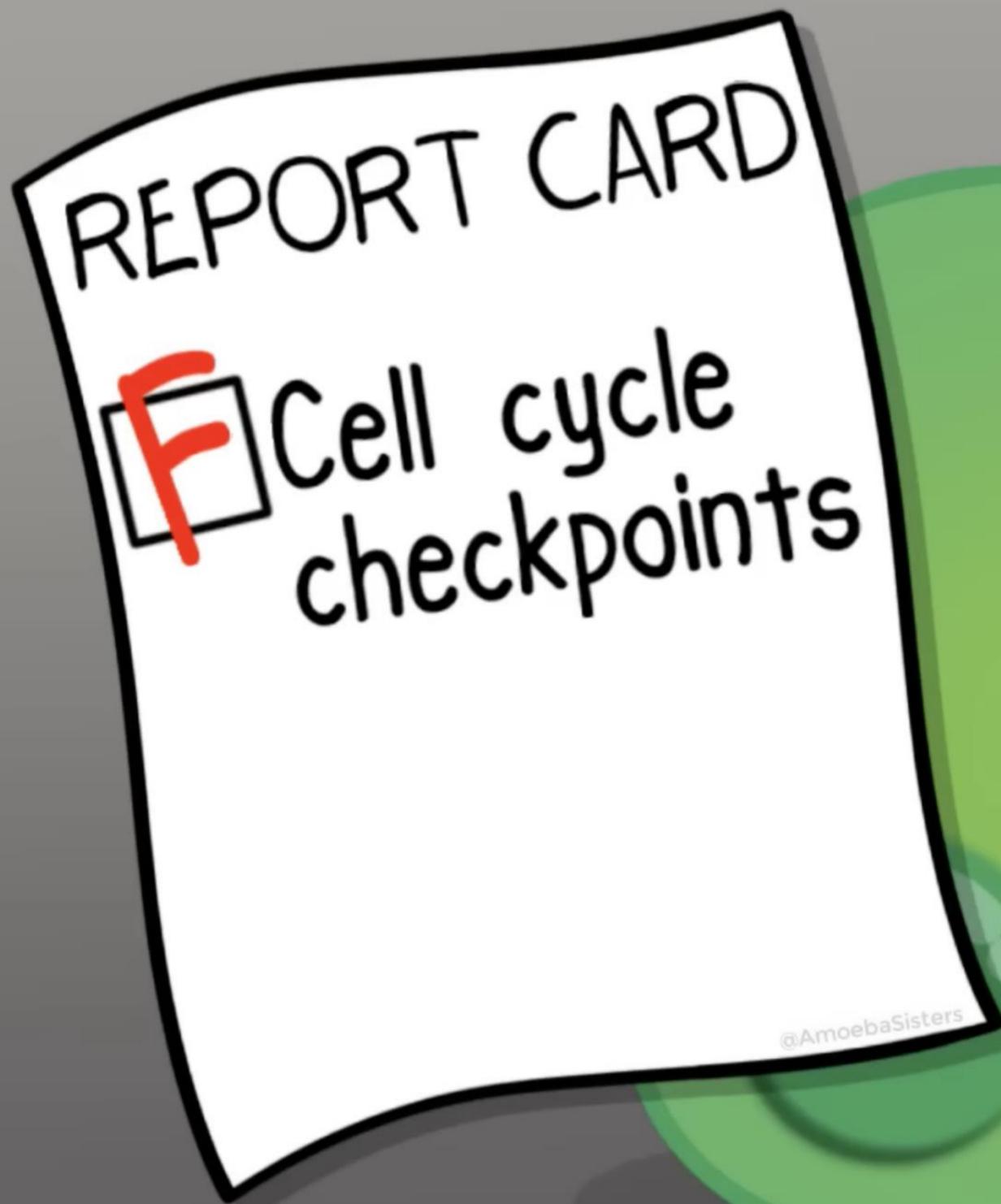


Cancer



TUMOR





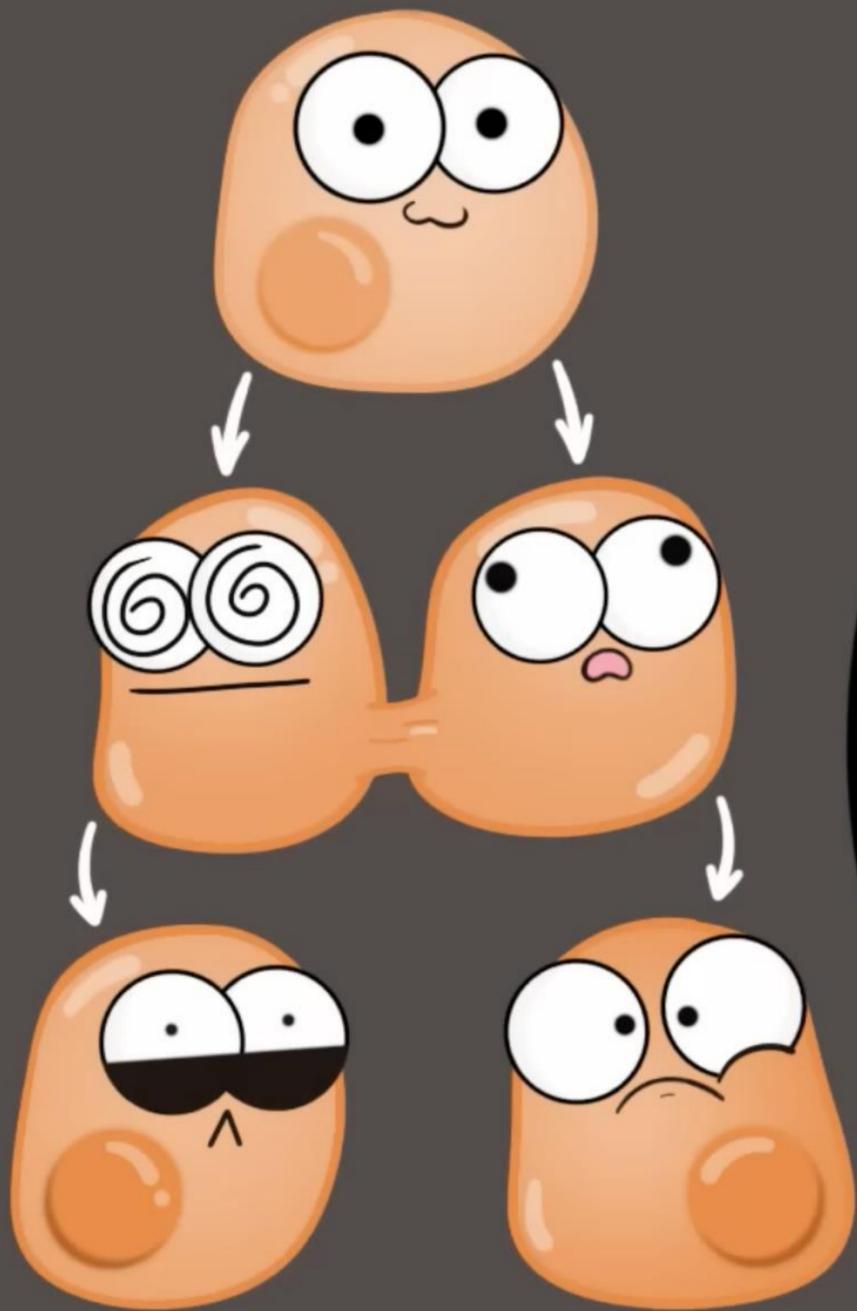
REPORT CARD

Cell cycle checkpoints

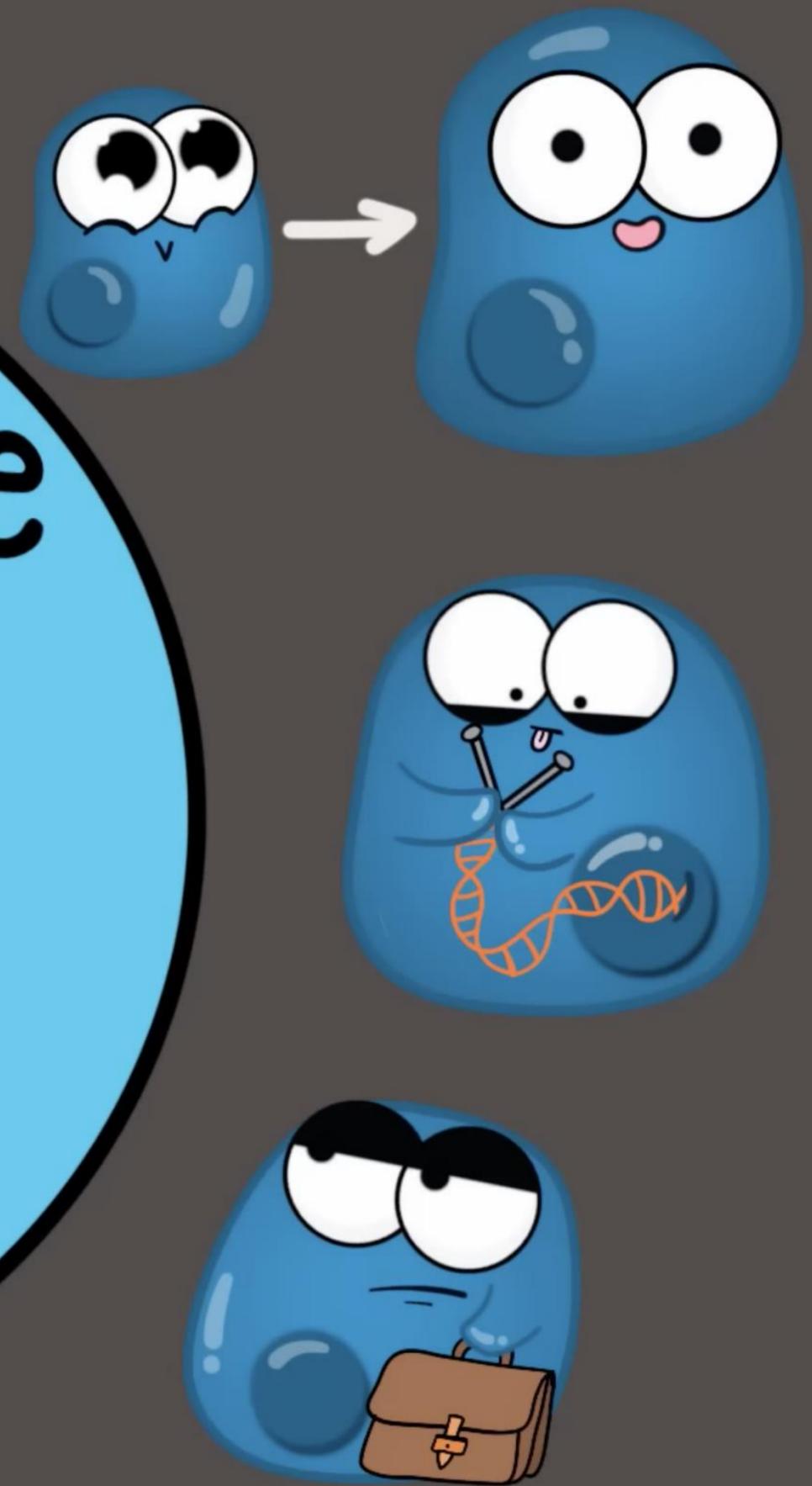
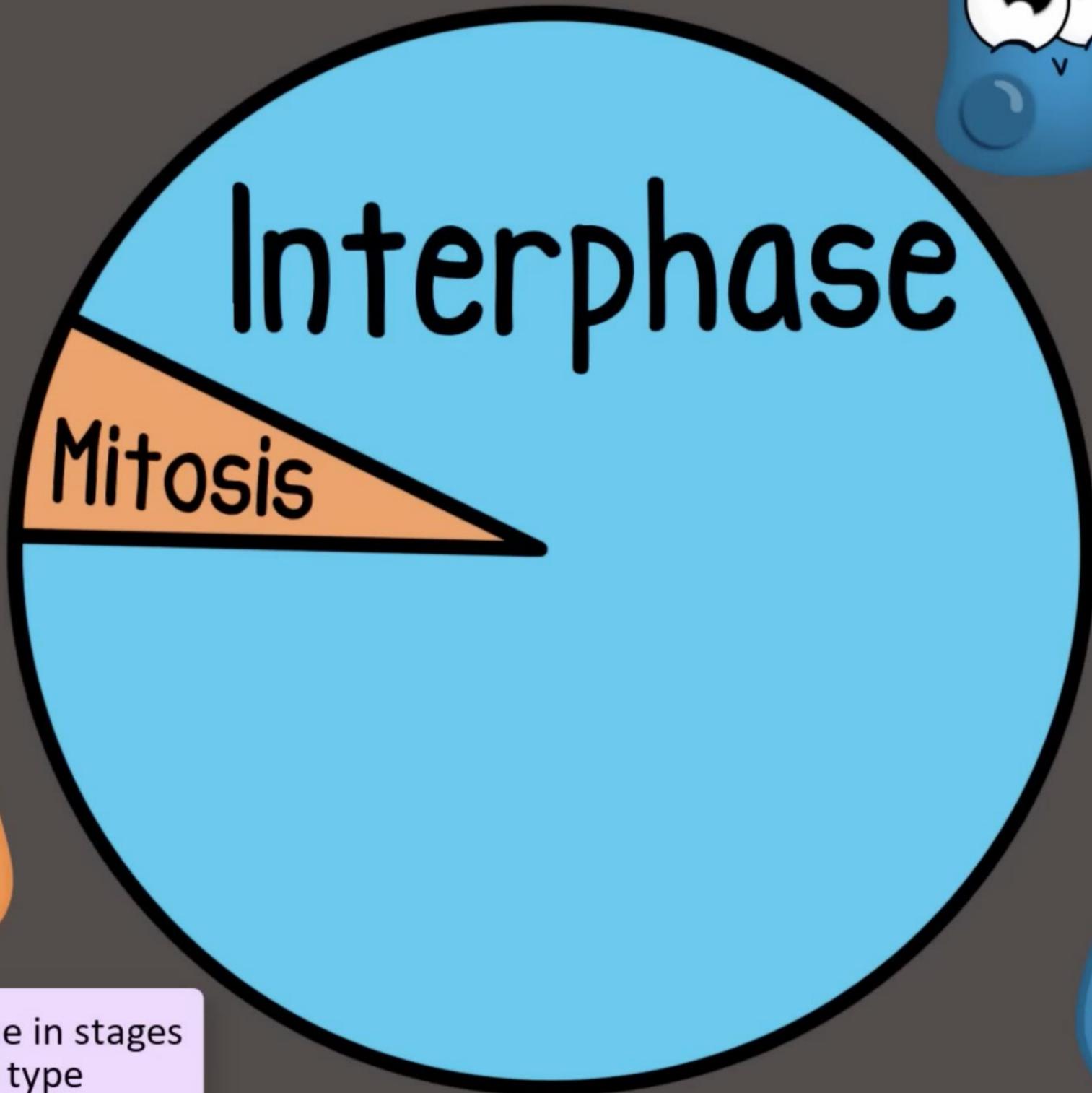
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Cell Cycle

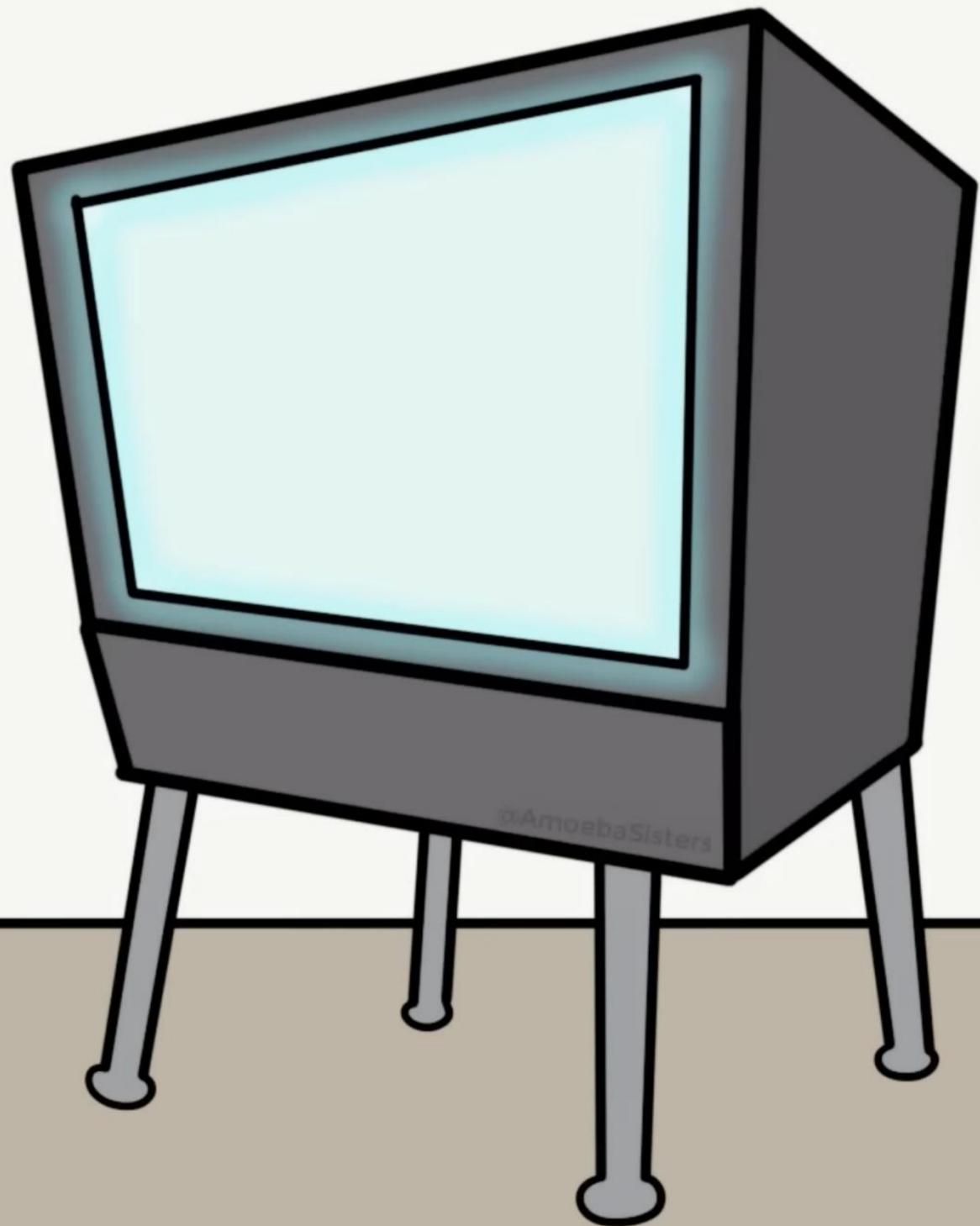
Sequence of Events in Cell

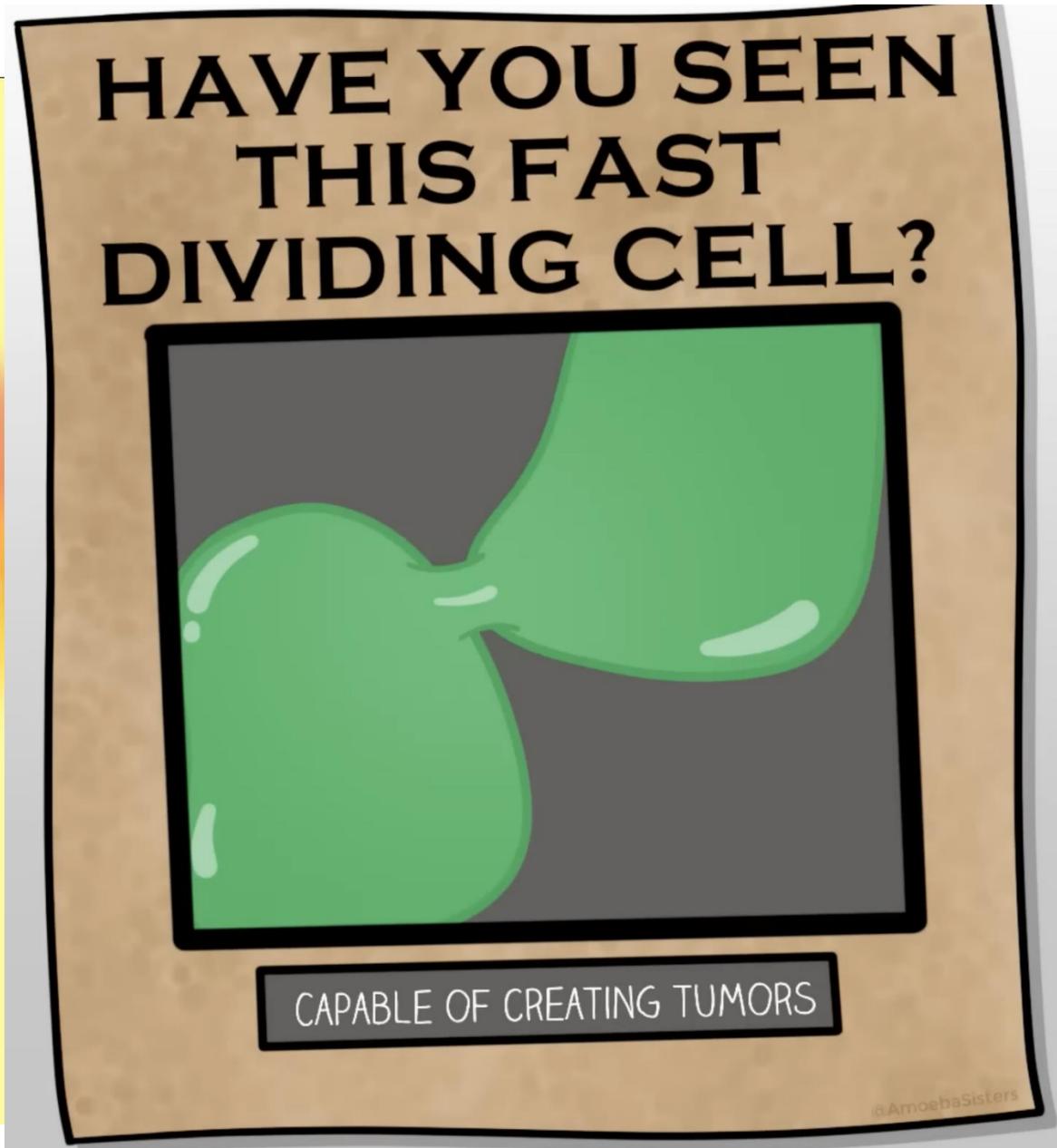
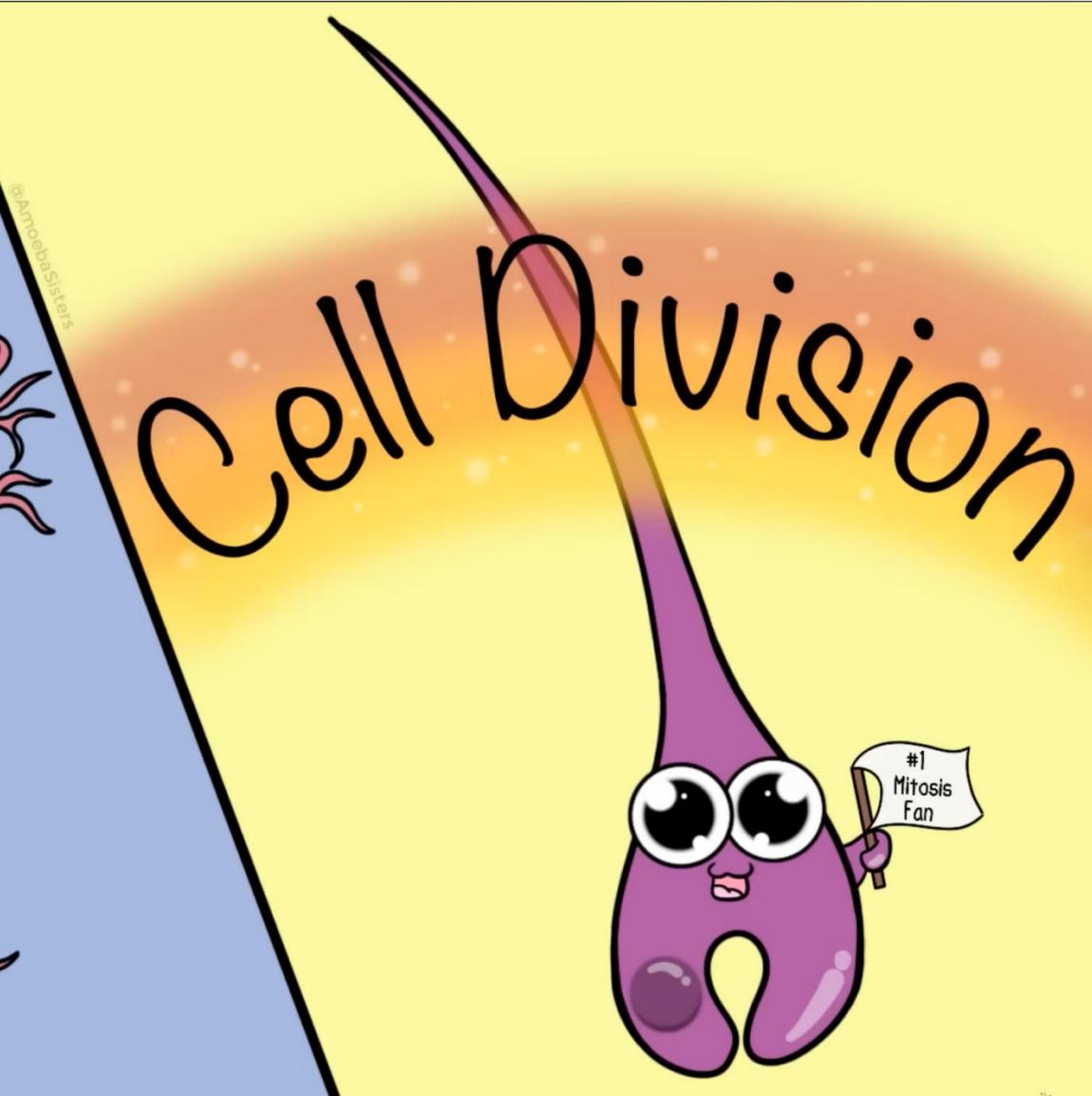
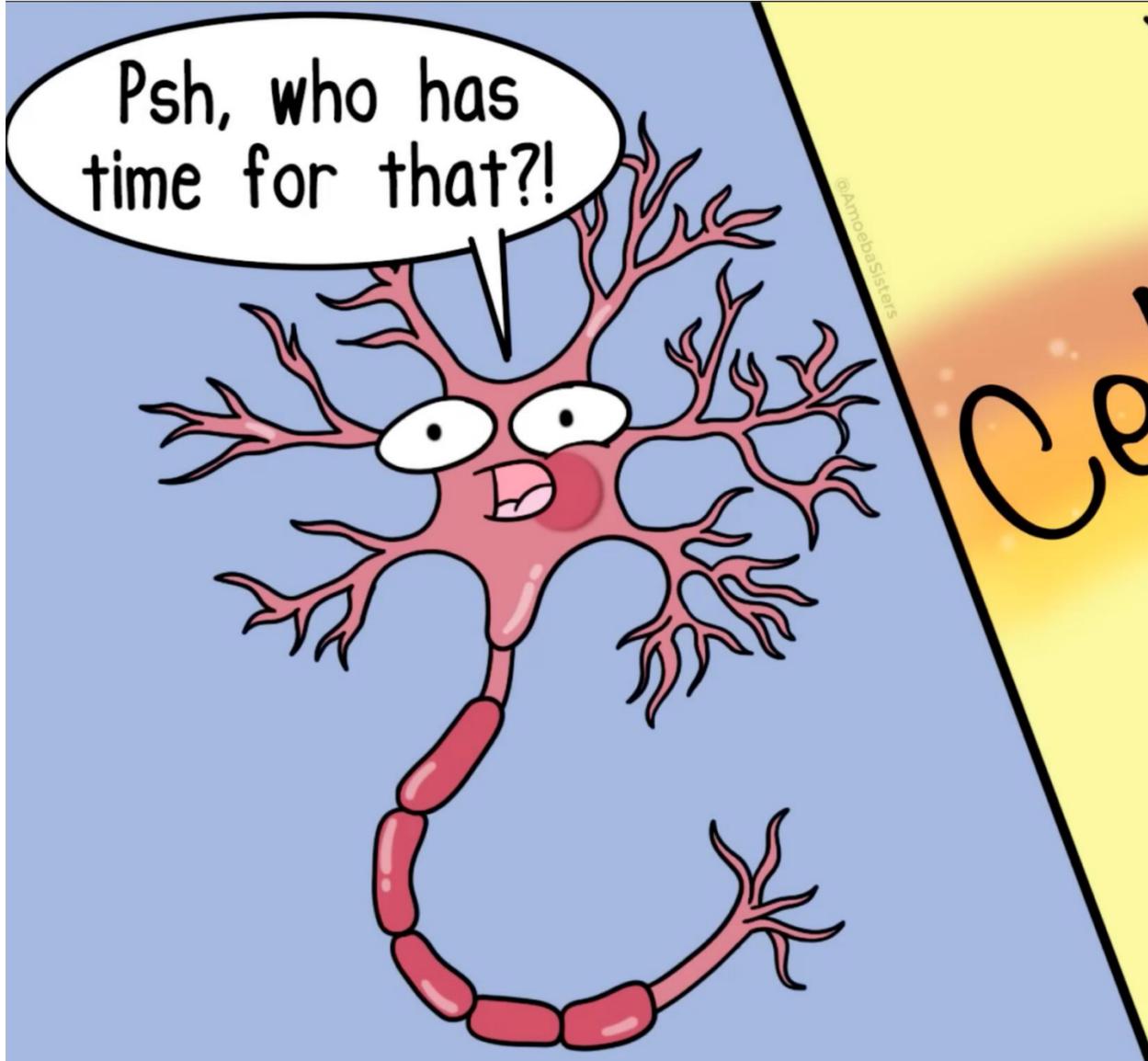


Actual amount of time in stages can vary by cell type



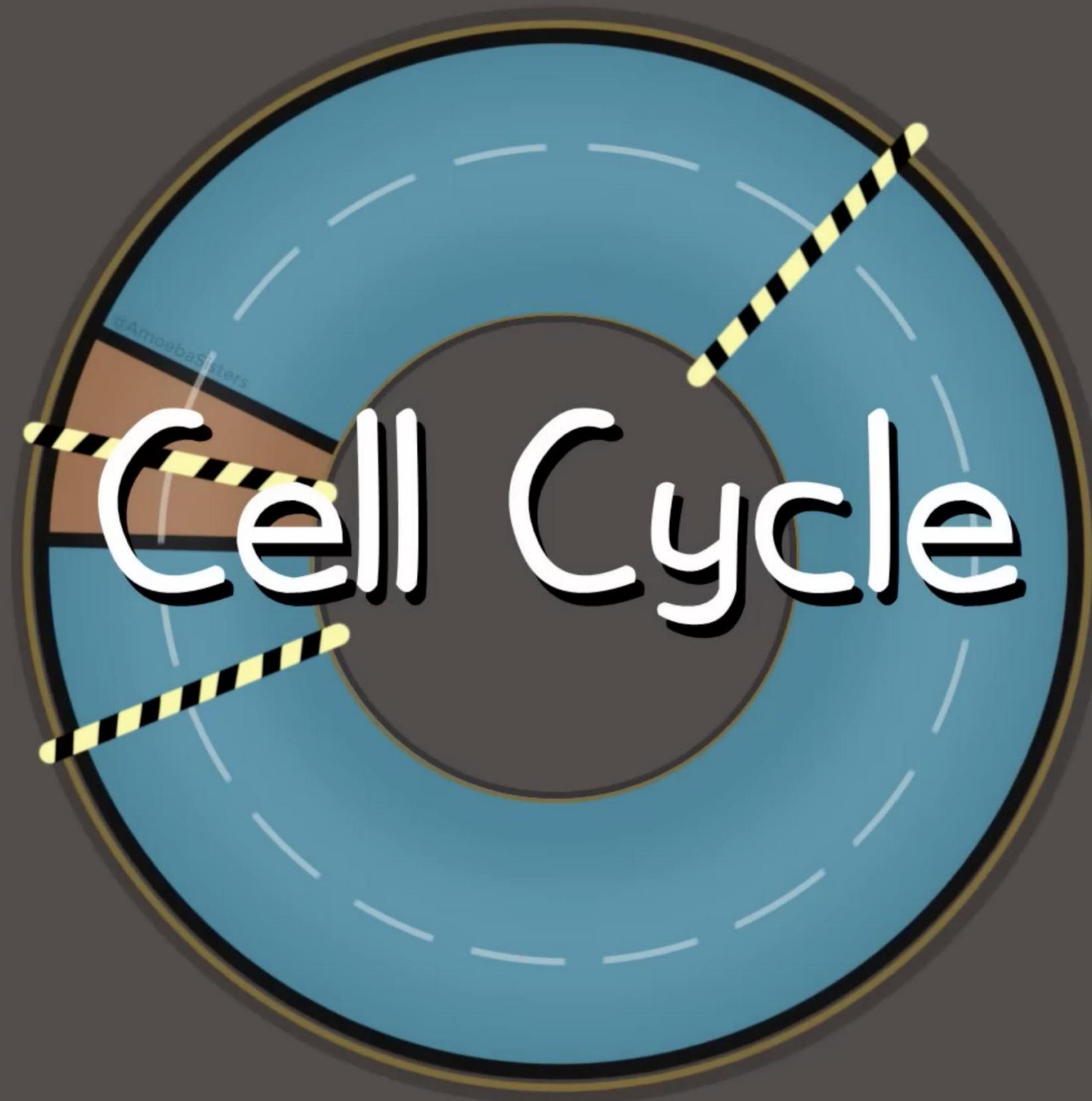
Yeah, yeah, I'll divide tomorrow.





CHECKPOINTS





- Growing
- Replicating DNA
- Cell Functions

More events occurring here than mentioned

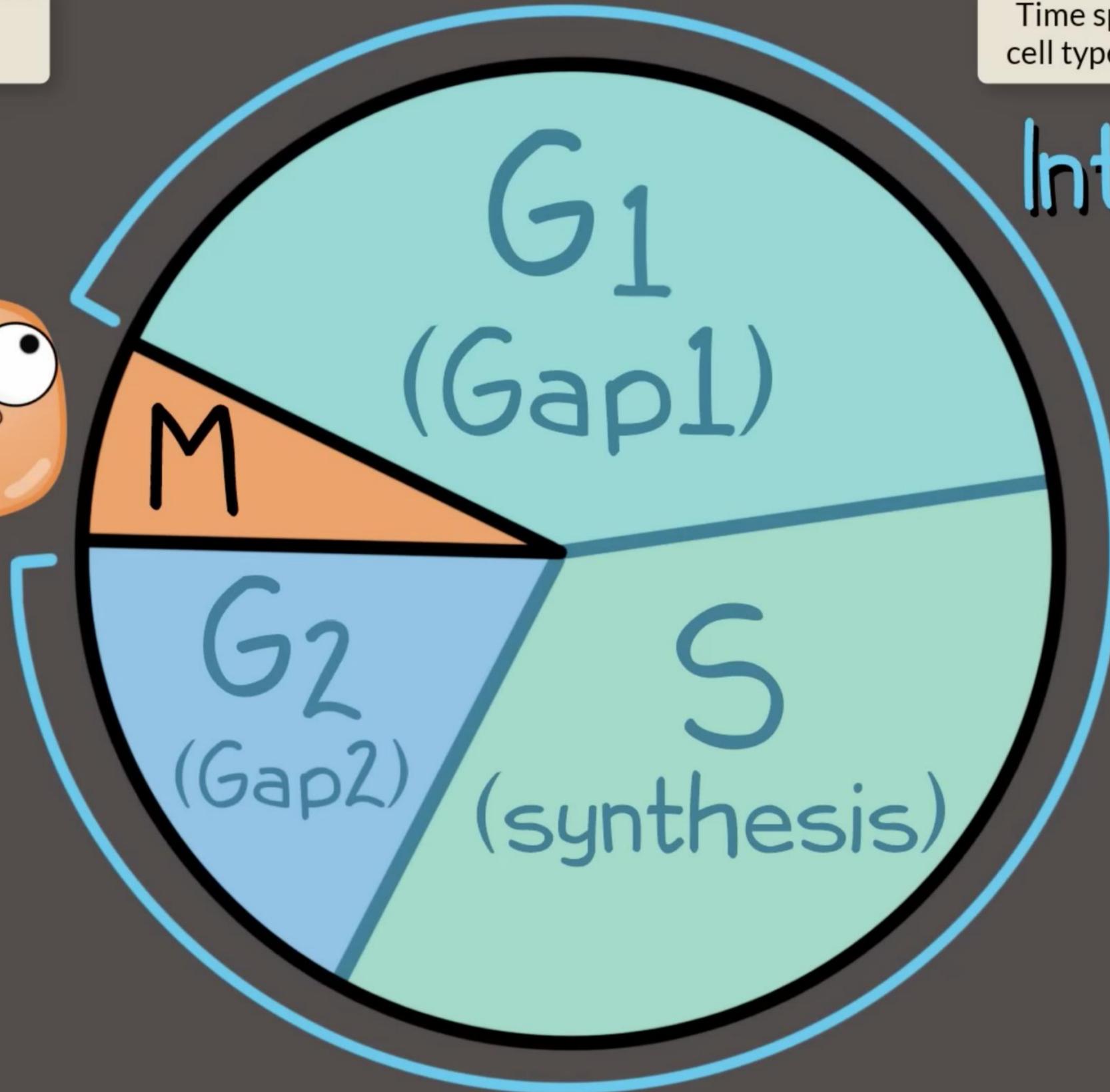
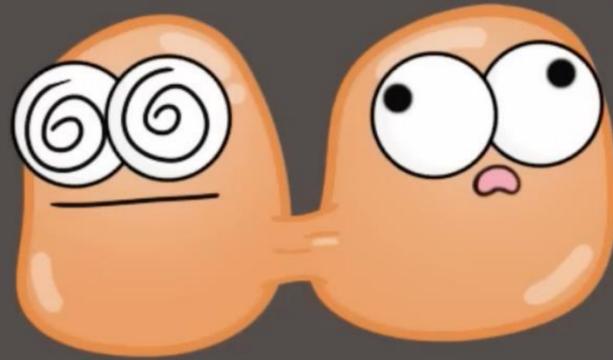
Cell Cycle

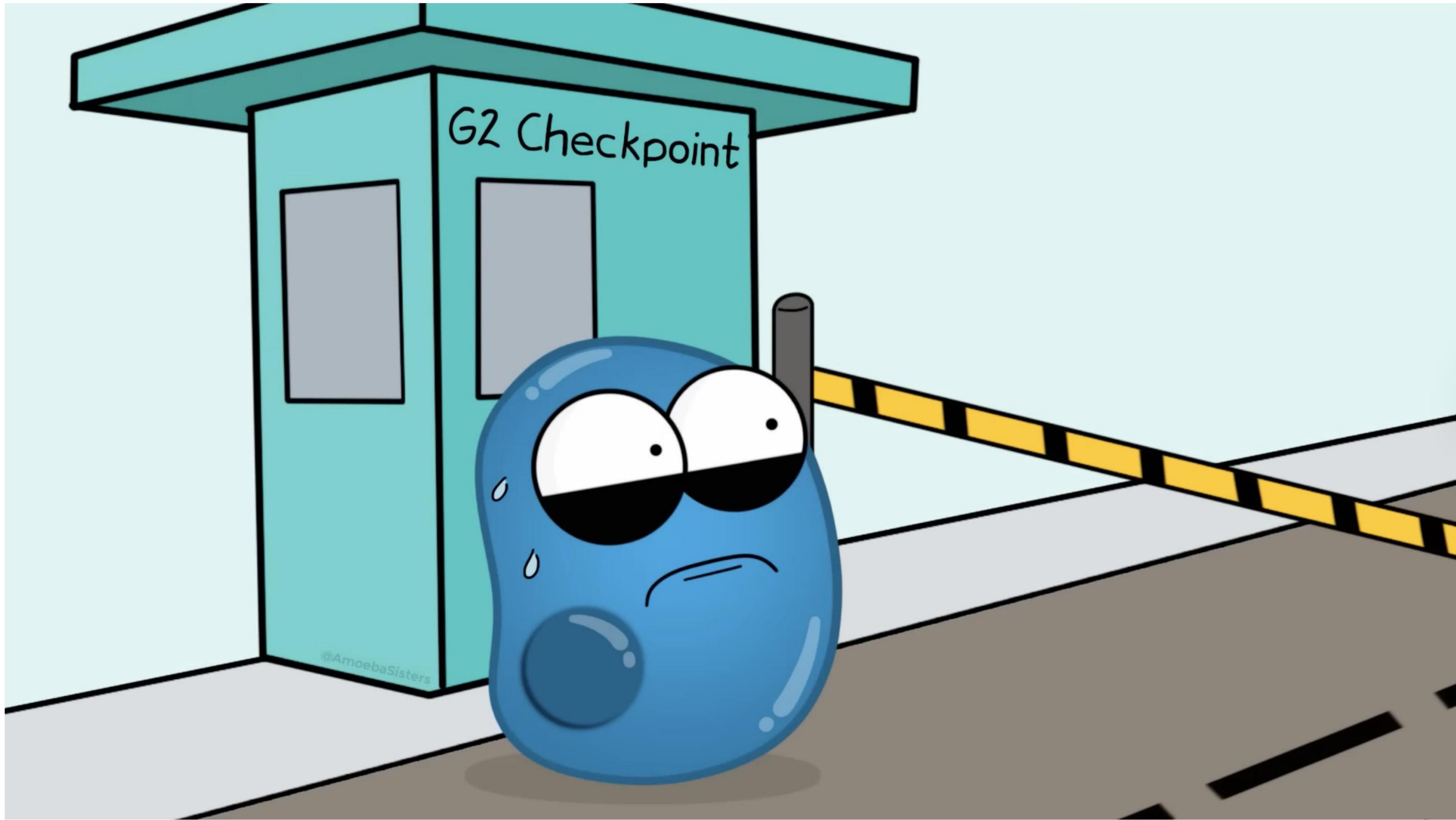
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Sequence of Events in Cell

Time spent in phases can vary due to cell type and internal/external factors.

Interphase

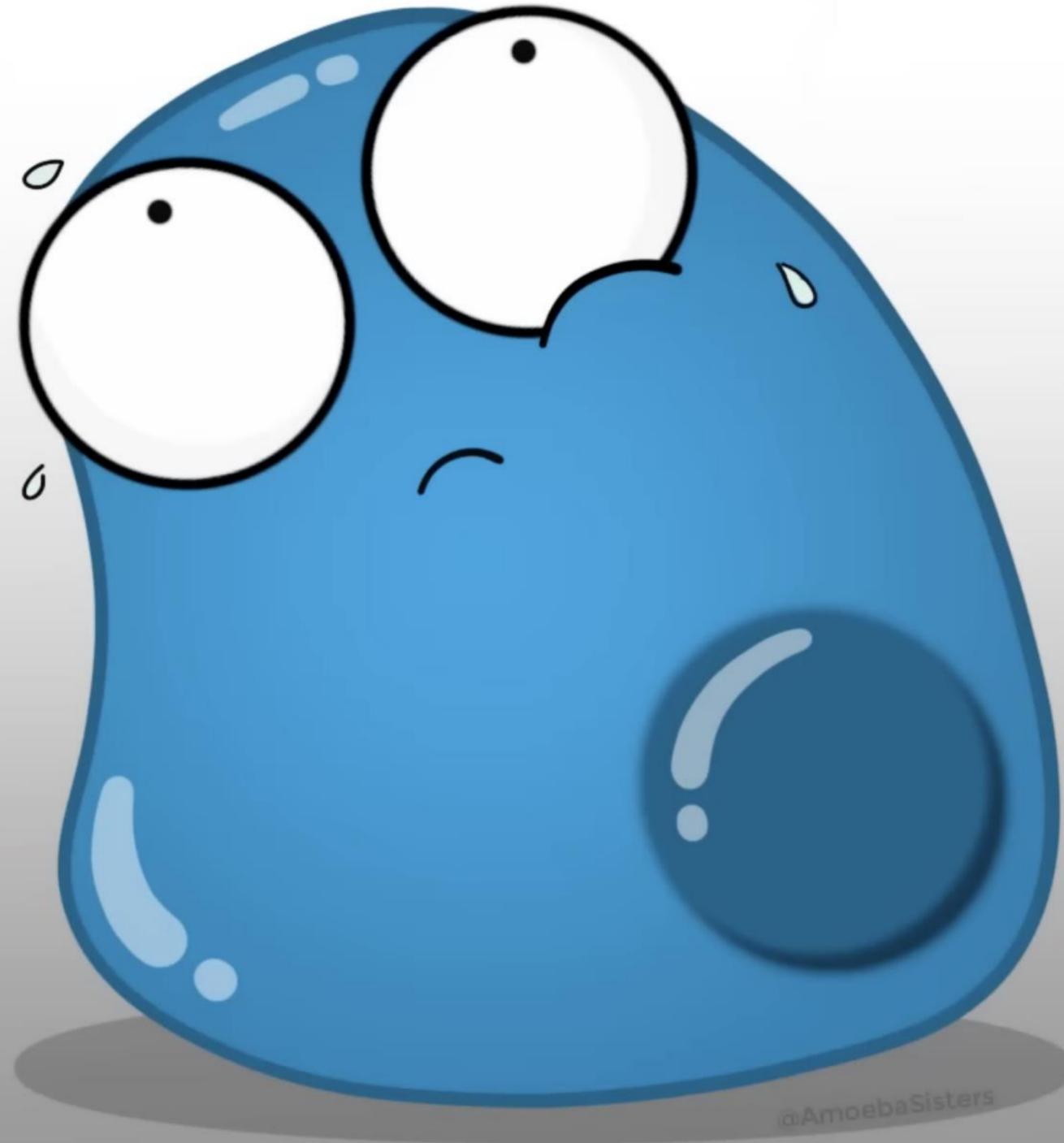




G2 Checkpoint

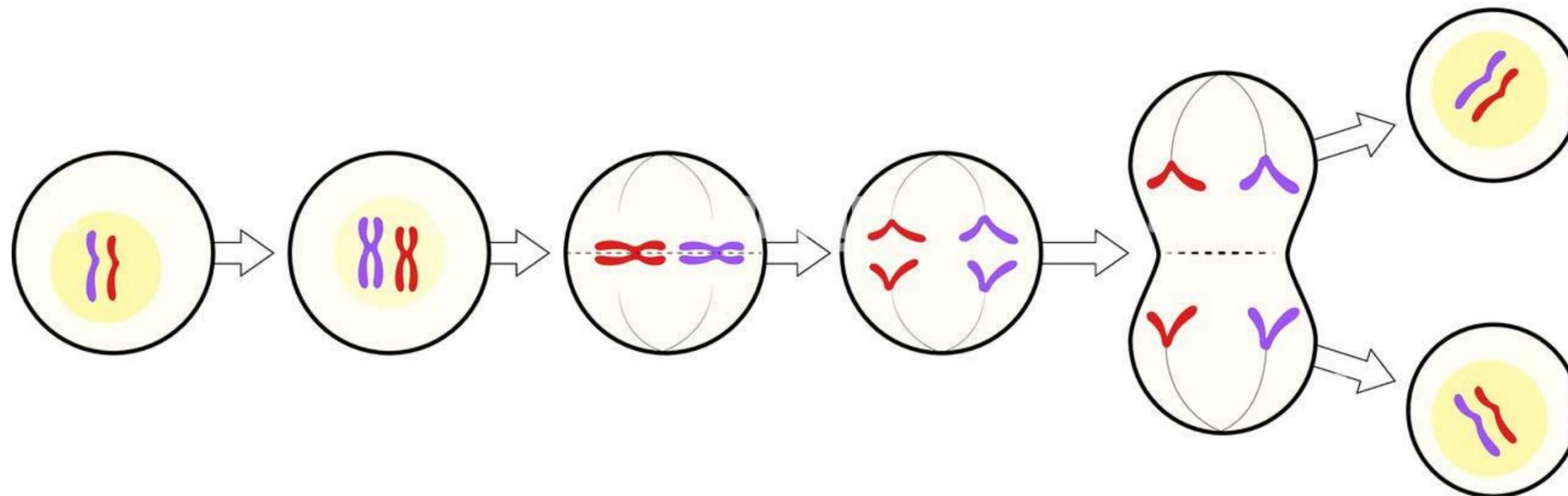
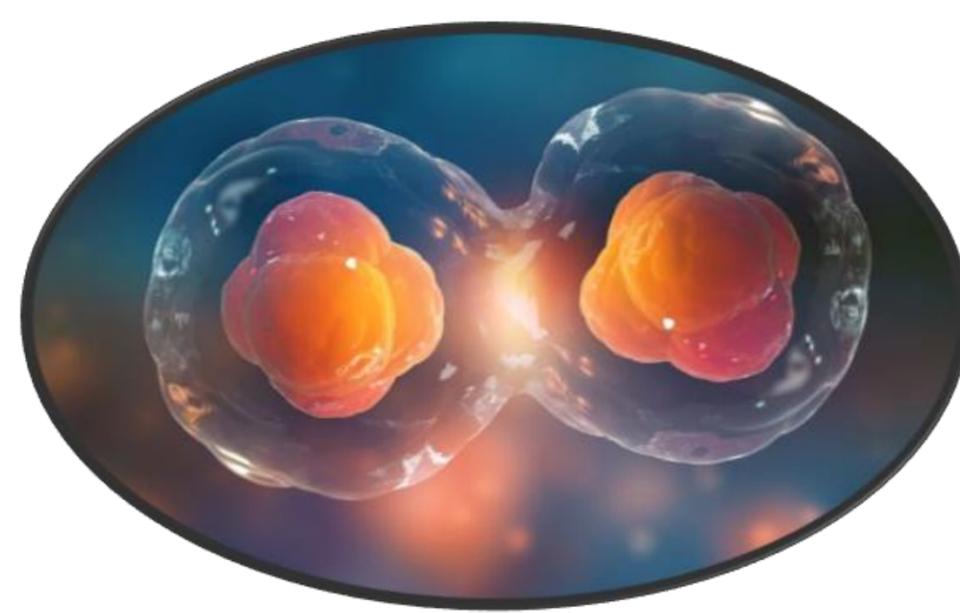
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APOPTOSIS



Cell Division

- When a cell divides to form two identical daughter cells.
- The original cell is called the parental cell



Single parent cell

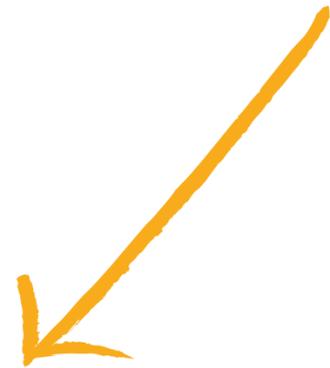
Cell division process

2 Daughter cells

What is Cell Cycle?

- A cell cycle is a series of events that takes place in a cell as it grows and divides.

Cell Cycle



Interphase (3 stages)

- DNA is not condensed
- No Active Division



M Phase (4 stages + cytokinesis)

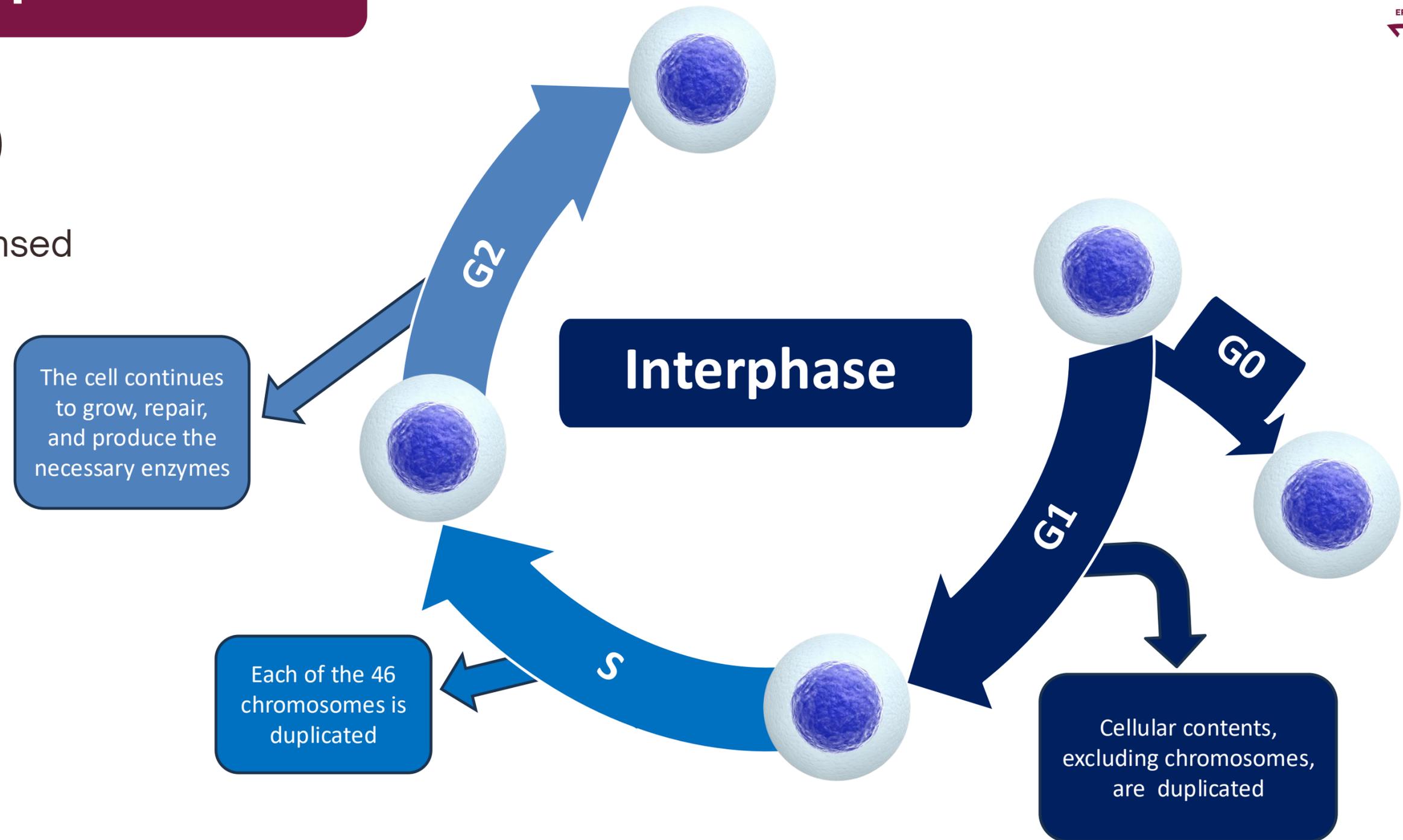
- Nuclear division & division of cytoplasm
- DNA condensed



Stages of Interphase

Interphase (3 stages)

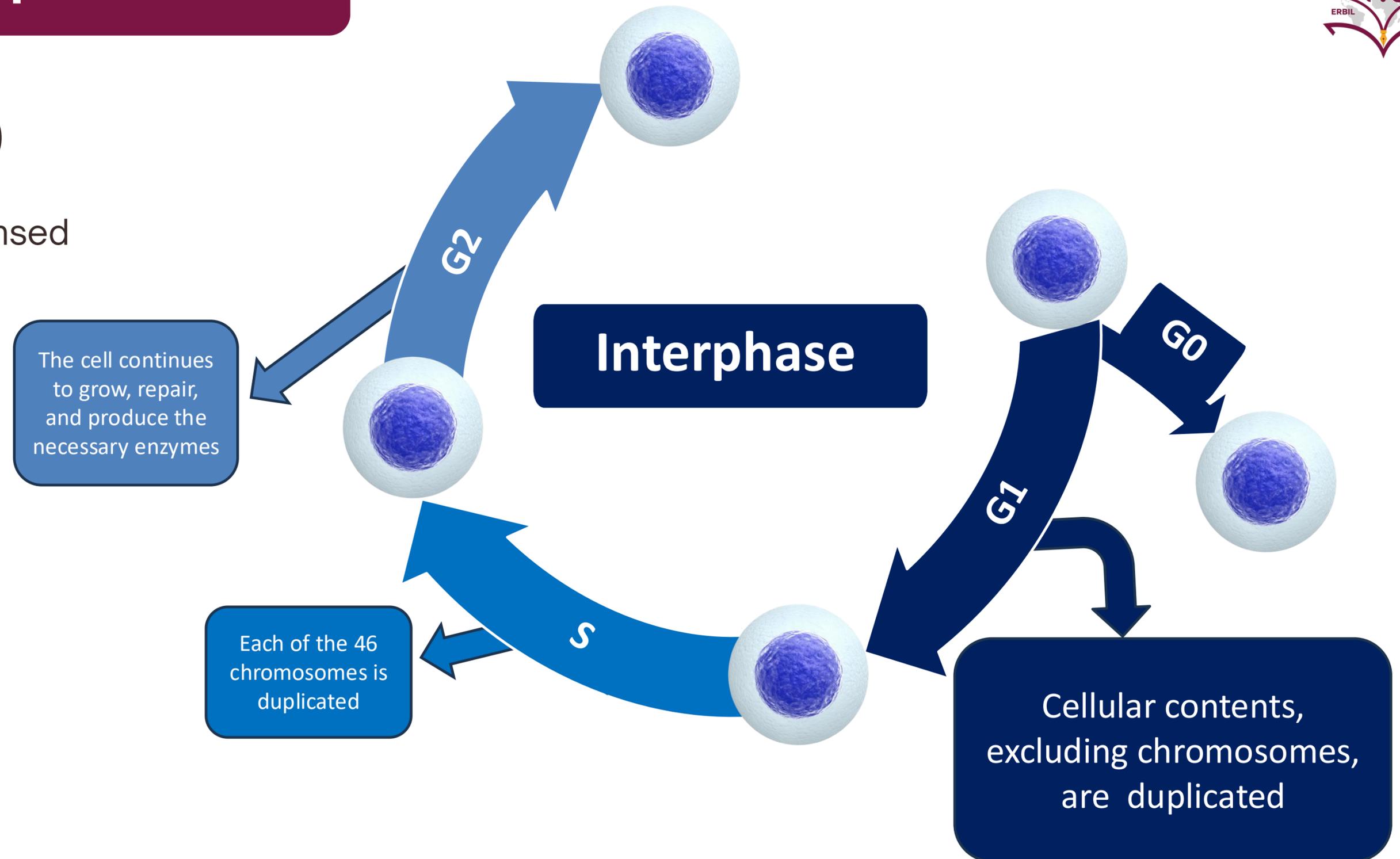
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Stages of Interphase

Interphase (3 stages)

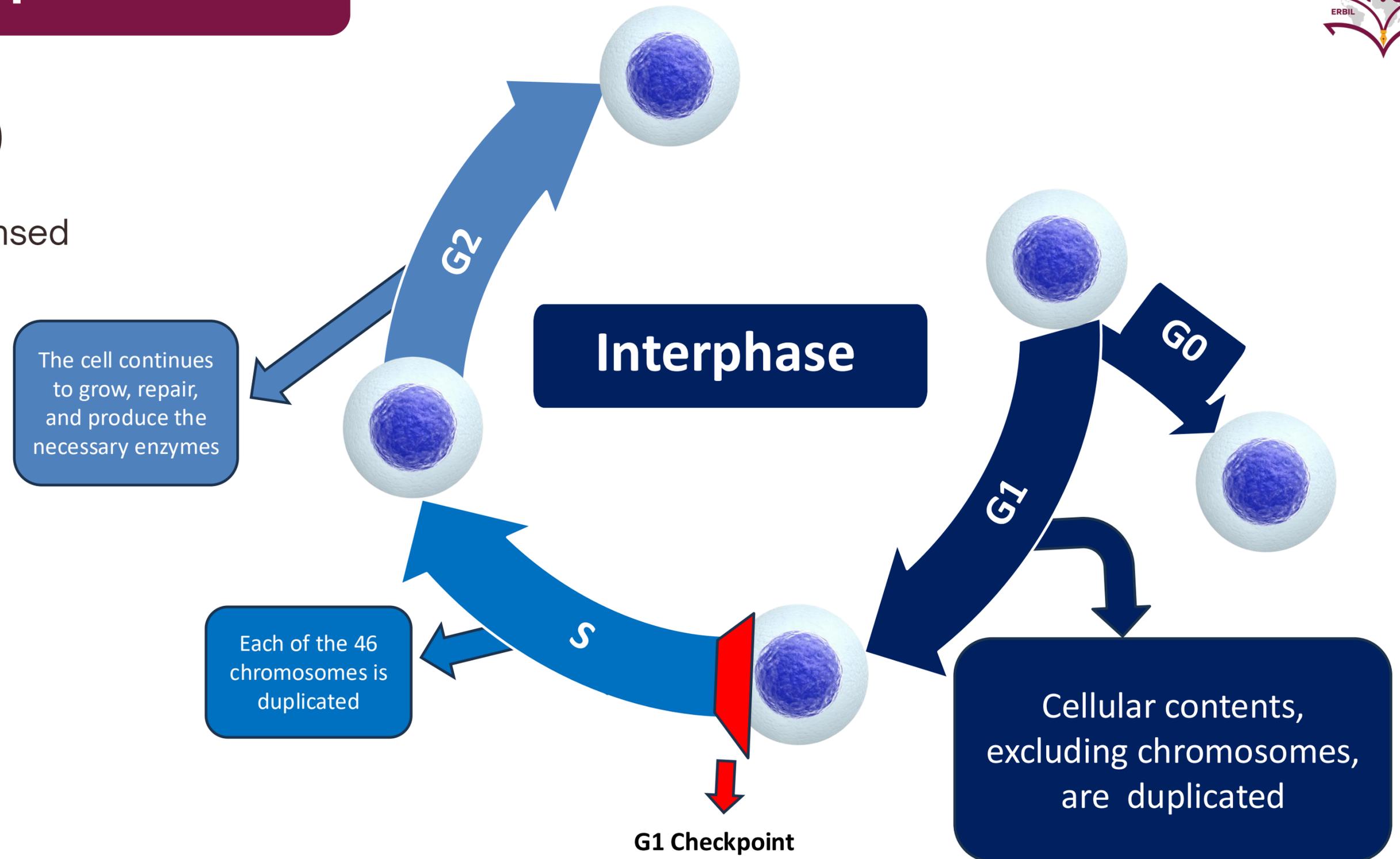
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Stages of Interphase

Interphase (3 stages)

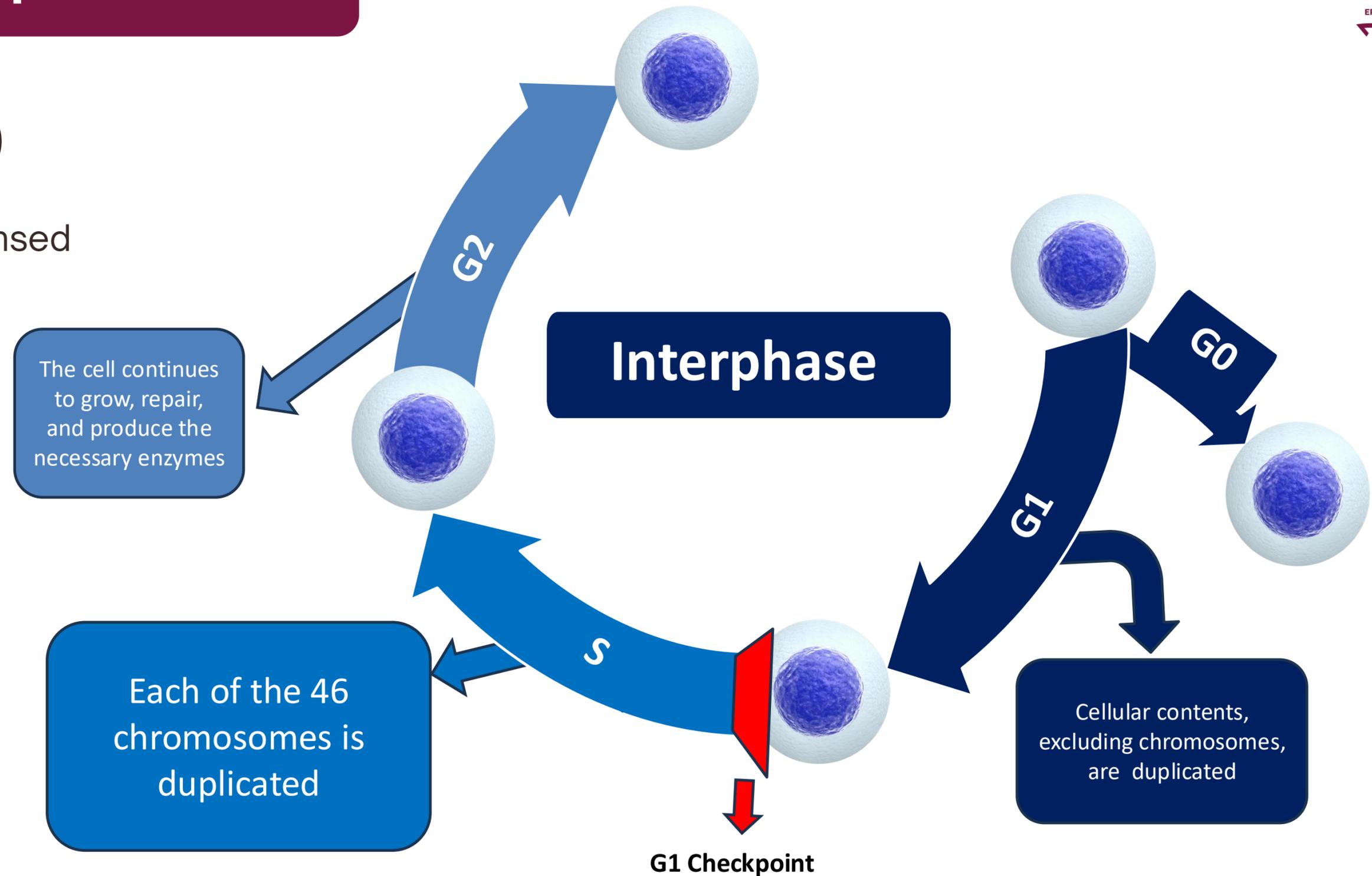
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Stages of Interphase

Interphase (3 stages)

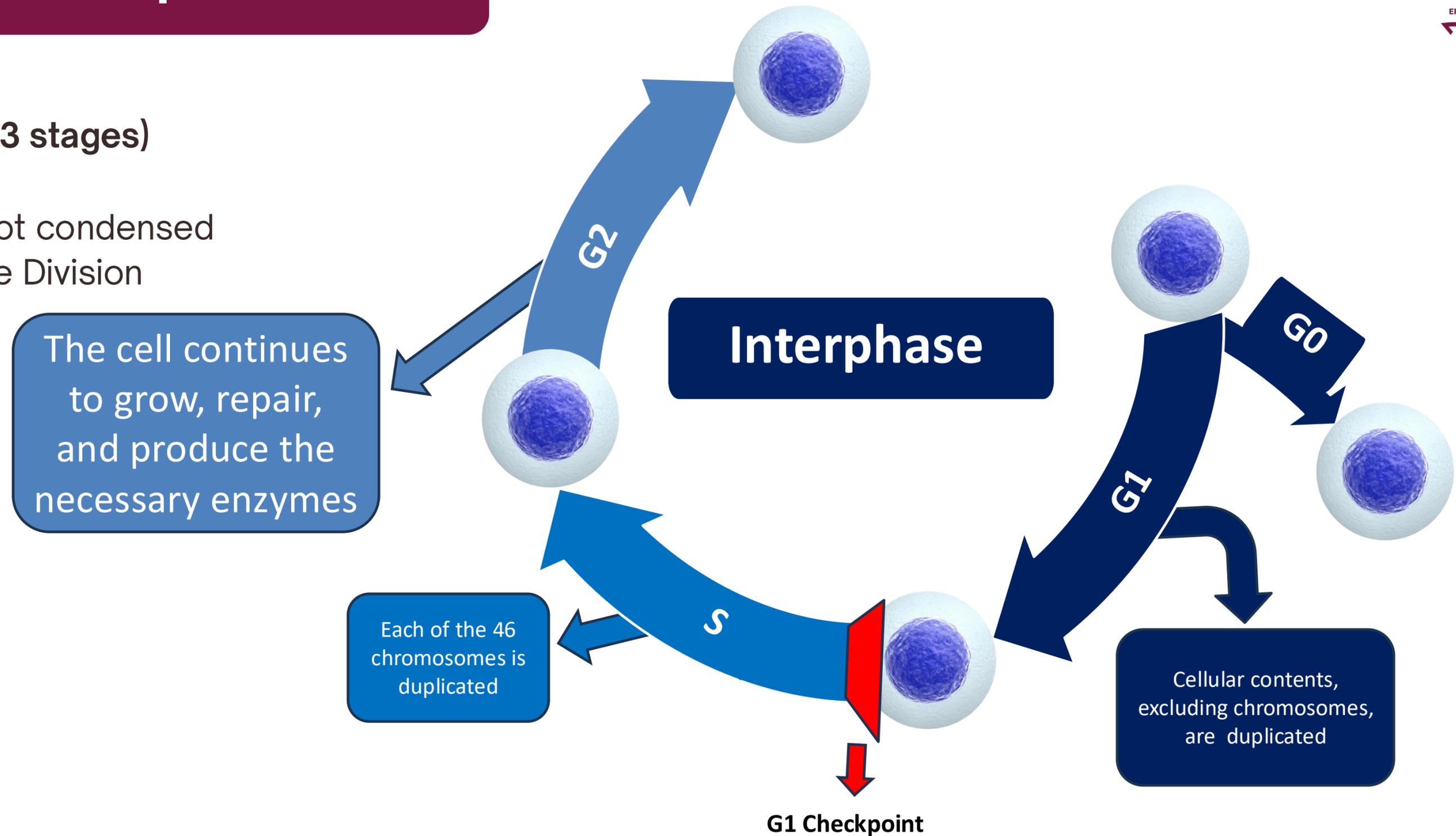
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Stages of Interphase

Interphase (3 stages)

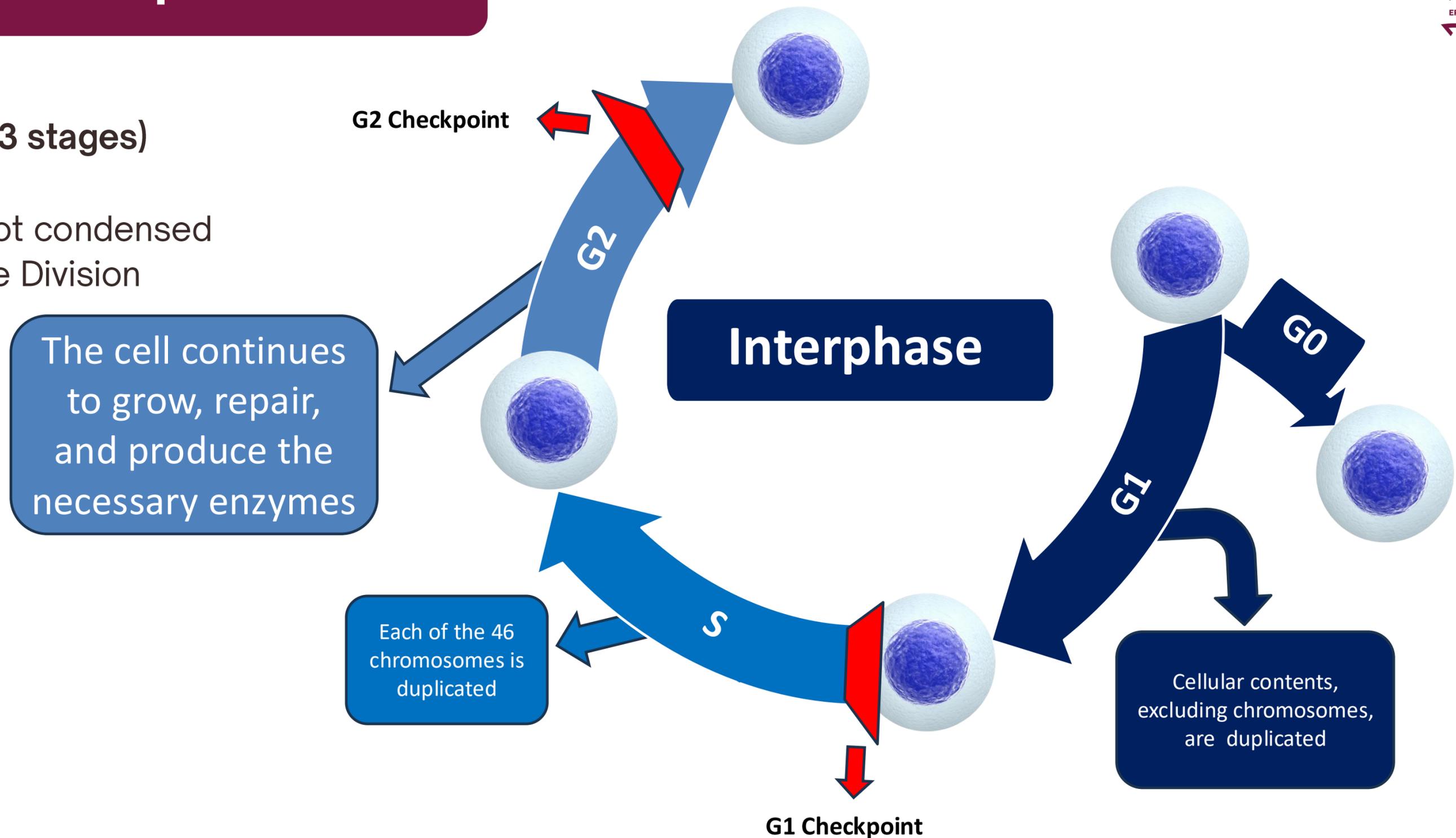
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Stages of Interphase

Interphase (3 stages)

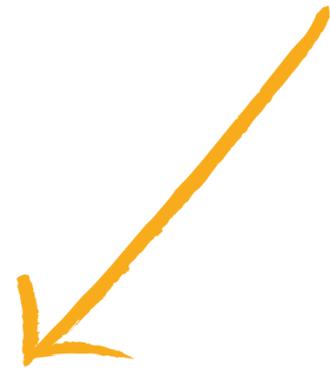
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What is Cell Cycle?

- A cell cycle is a series of events that takes place in a cell as it grows and divides.

Cell Cycle



Interphase (3 stages)

- DNA is not condensed
- No Active Division



M Phase (4 stages + cytokinesis)

- Nuclear division & division of cytoplasm
- DNA condensed



Next Lecture



M Phase (4 stages + cytokinesis)

- DNA condensed
- Nuclear division & division of cytoplasm

