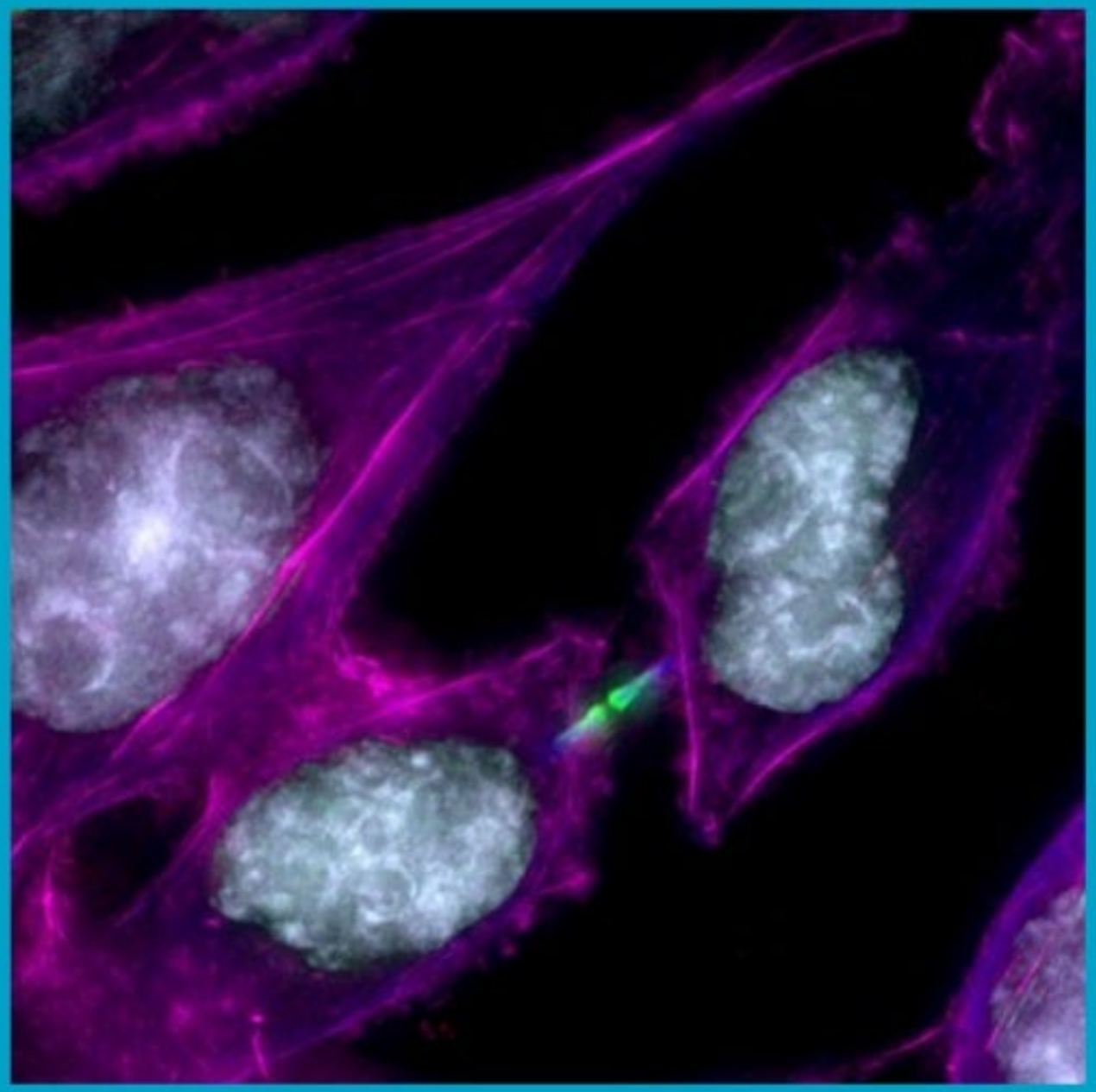
Cell Division

Mitosis & Meiosis

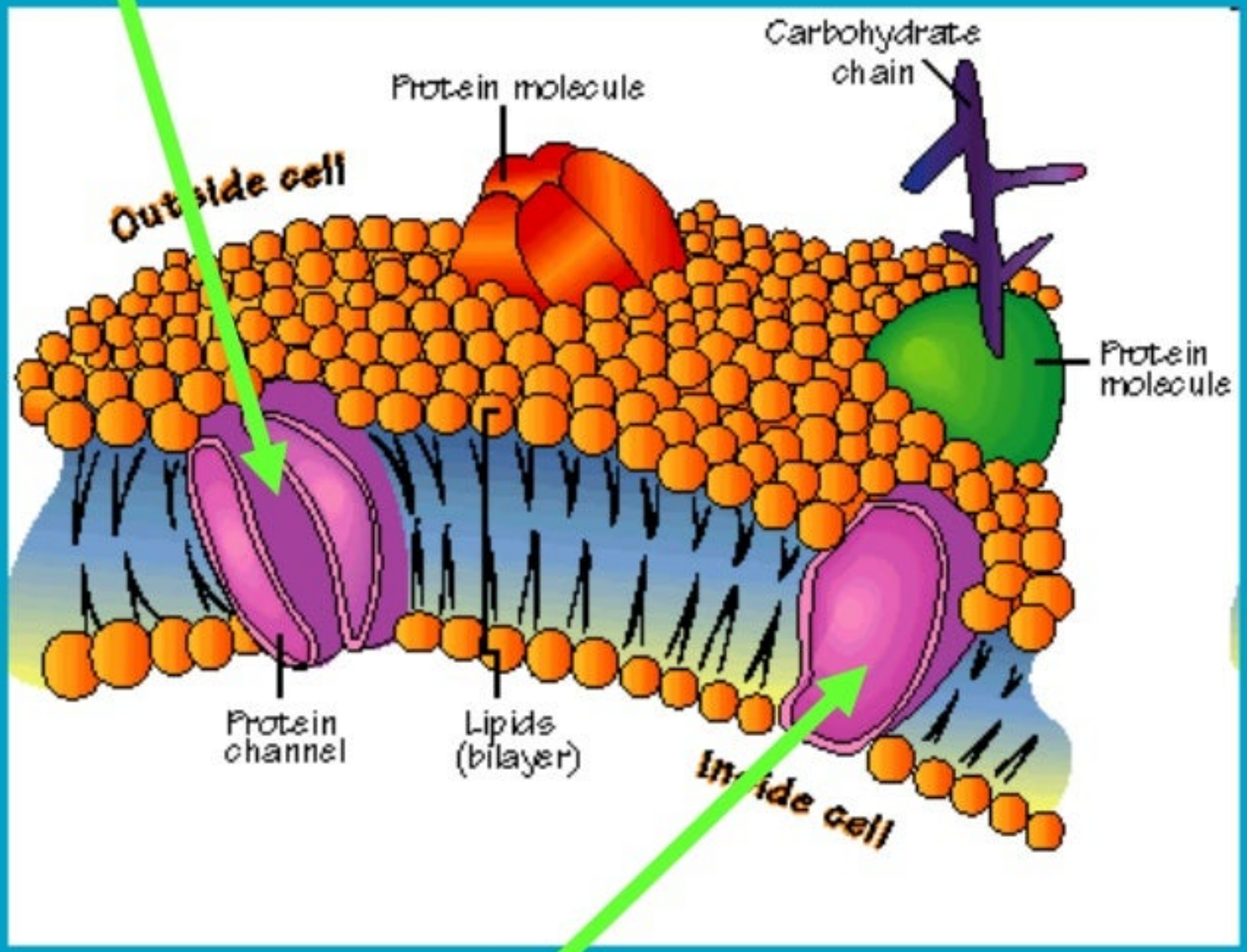
Why Do Cells Divide?



The larger a cell becomes, the more demands the cell places on it's DNA.

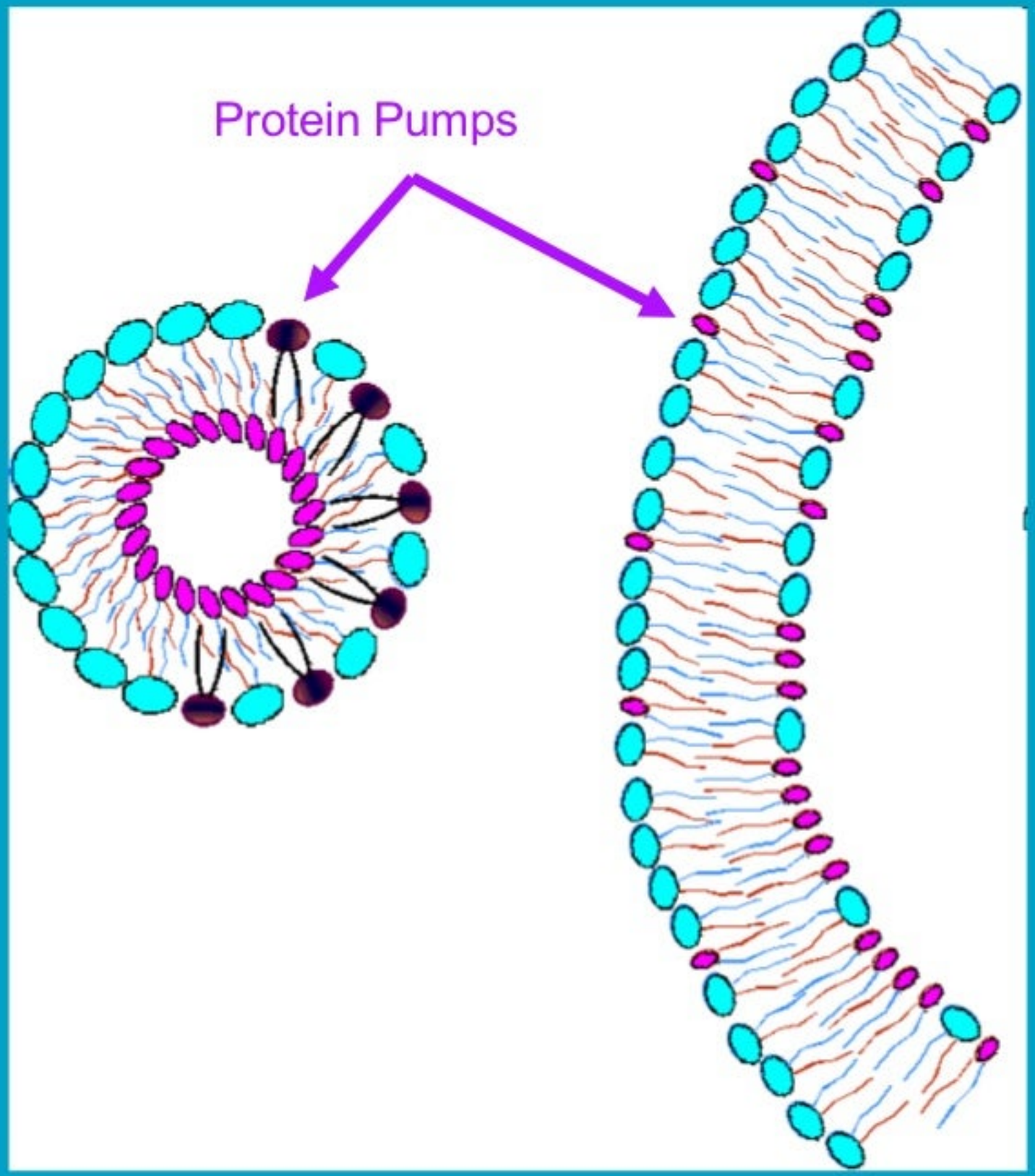
It also has more trouble moving enough food and wastes across its cell membrane.

Food goes in

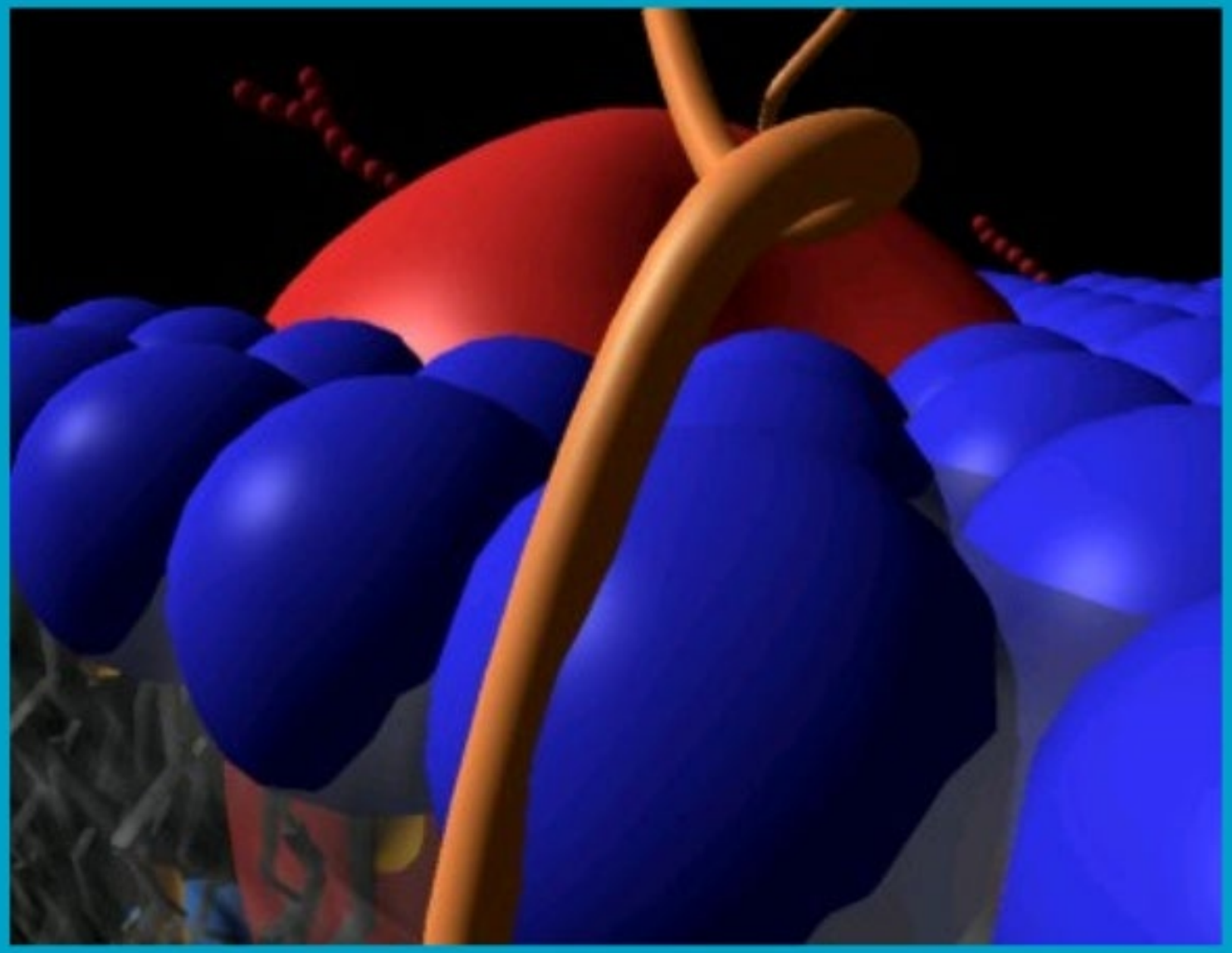


The bigger the cell gets the harder it becomes to move food and waste across the membrane

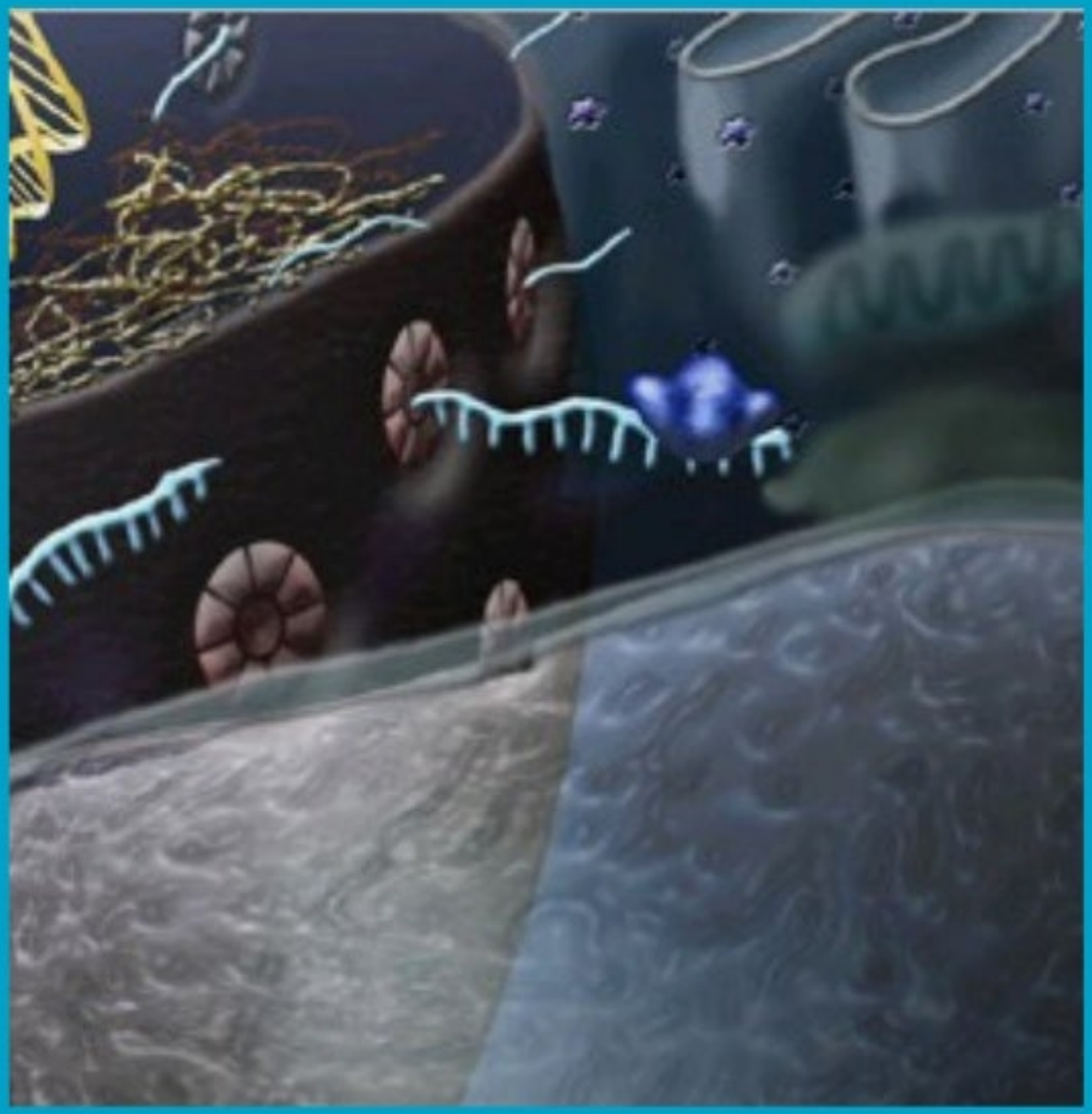
Waste goes out



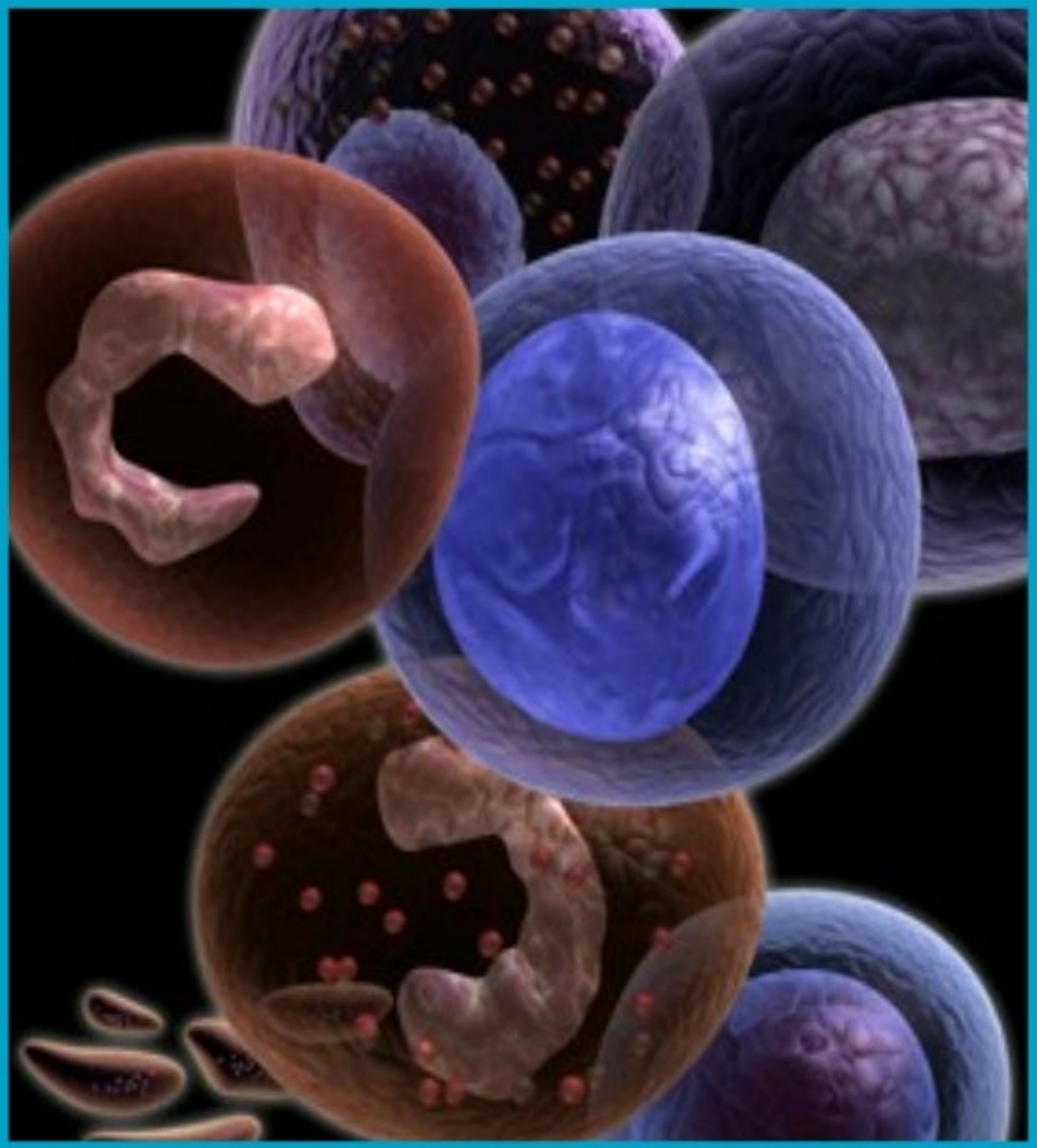
This happens because the **<u>surface area</u>** and **<u>volume</u>** ratio does not stay the same as the cell size increases.



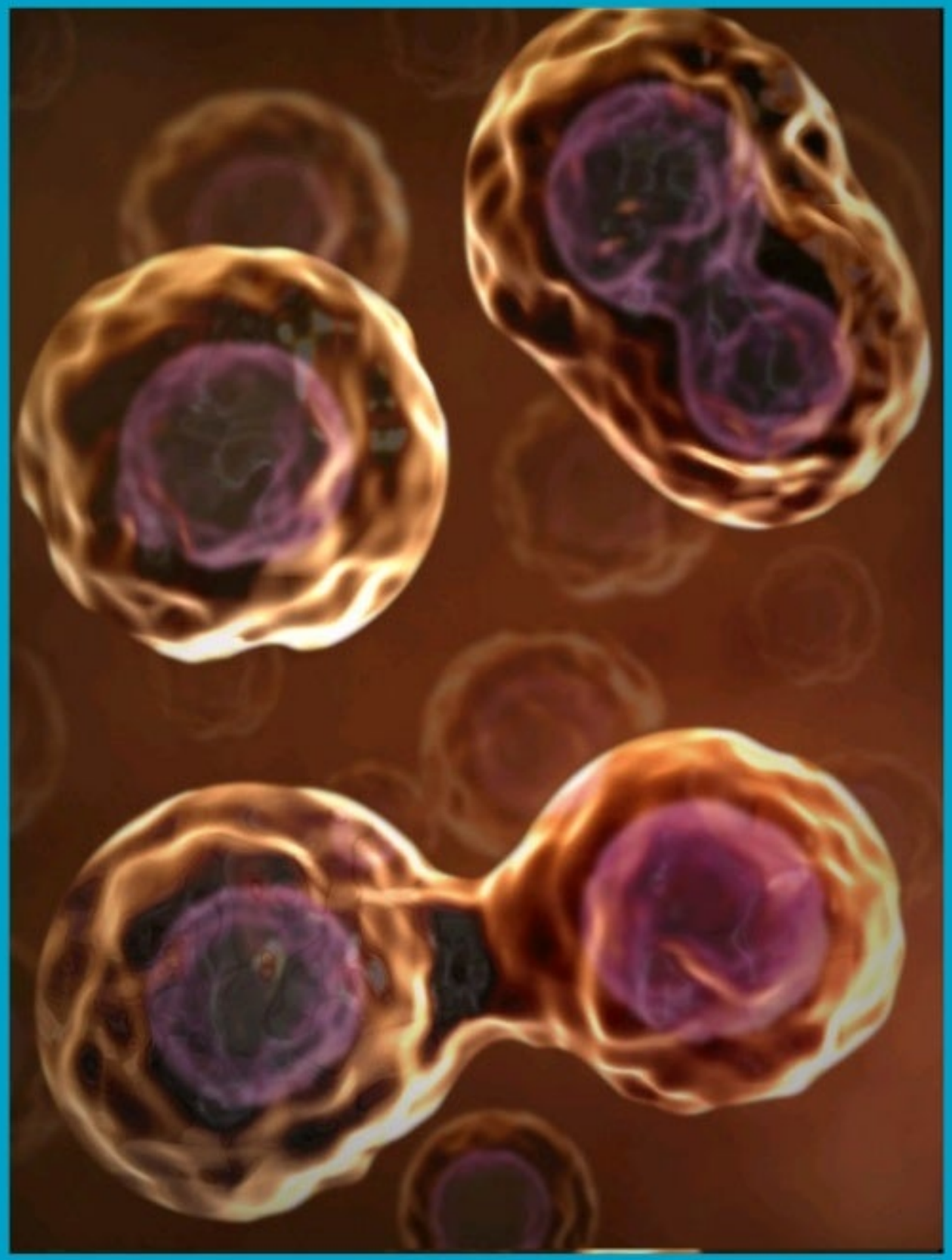
The cell's ability to either get substances from the outside or eliminate waste from the inside is related to the **surface area** of the cell membrane. (outside)



How much food and other material is required, and how much waste the cell produces and has to get rid of, is related to the **volume** of the cell. (inside)



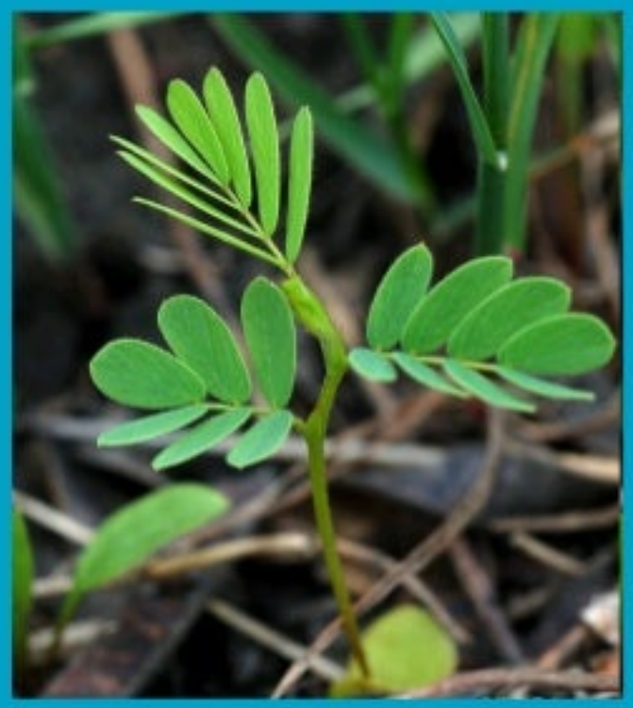
As a cell gets bigger there comes a time when its surface area is not large enough to meet the demands of the cell's volume and the cell stops growing.



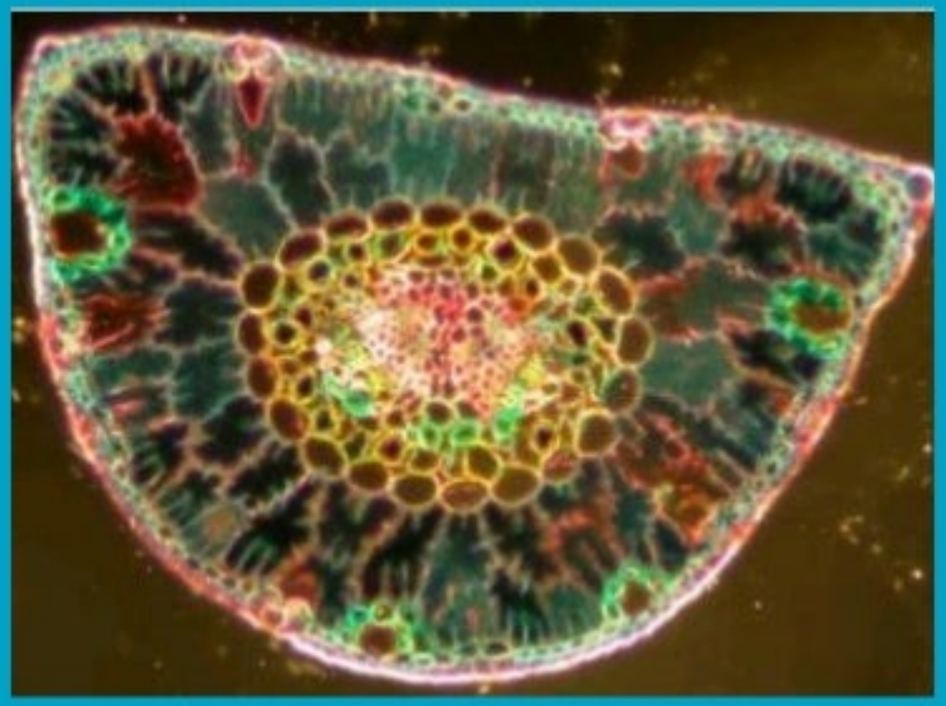
So, once cells reach a certain size they must divide in order to continue to function – or they will no longer be able to take in nutrients and eliminate waste.

Why Is Cell Division Important?

1. All Living Things are made of Cells



2. The Cell is the basic unit of Structure and Function in Living Things.



3. All Cells come from pre existing Cells