

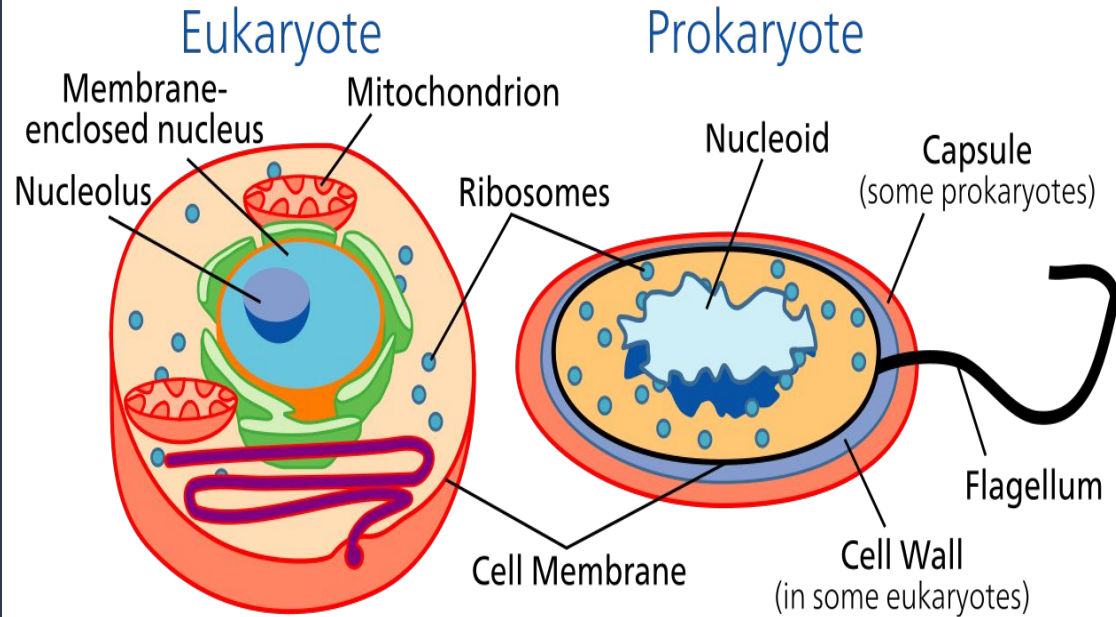
# Nucleus

By: Katelynn Velasco

A dark blue diagonal gradient bar that starts from the bottom left corner and extends towards the top right corner, covering the lower half of the page.

# Background Information

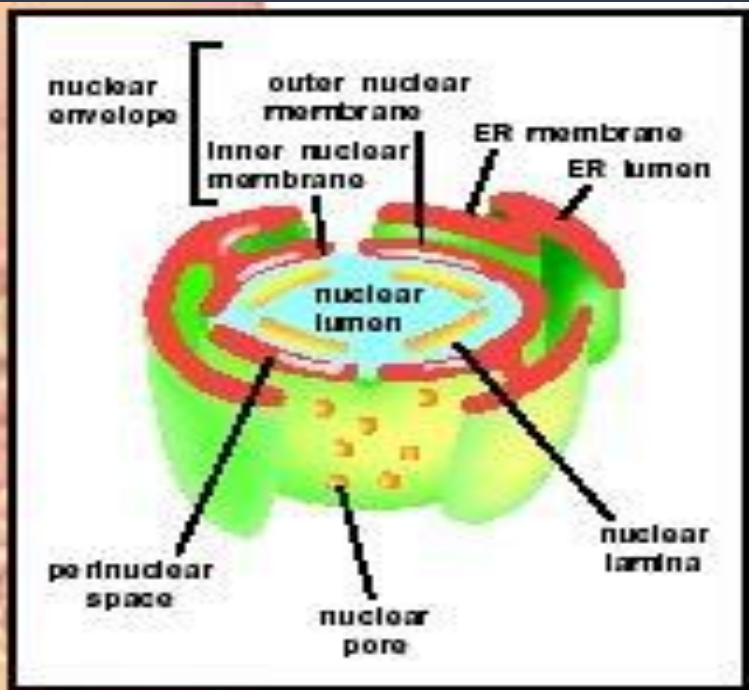
- A nucleus is a defining part in a eukaryotic cell, a true nucleus is not found in a prokaryotic cell
- A nucleus separates chromosomes from other organelles and provides a structural framework for organizing and regulating other organelles



# Major Functions

- This organelle is responsible for information processes and administration
- Stores the cell's hereditary materials (DNA and RNA)
- Coordinates cell activities (growth, protein synthesis, and reproduction)
- Uses nucleic acids and protein in order to make DNA and RNA
- Nucleus also makes subunits for ribosomes

# Organelle's structure



- **Nuclear envelope:** a double membrane that encloses the nucleus and separates its contents from the cytoplasm
- **Nuclear pores:** this is within the nuclear envelope and allows specific molecules like ribosomal subunits and large protein-RNA out of the nucleus
- **Nuclear lamina:** protein lining on the inner membrane of the nuclear envelope that binds to chromatin and other nuclear components and provides structural stability to the nucleus
- **Nucleoplasm:** a semi fluid that holds chromatin and chromosomes
- **Chromosome/chromatins:** threadlike structure of nucleic acids and proteins that carry genetic information, fills up much of the nuclear interior. Chromatins are more condensed while chromosomes are more extended for transcription
- **Nucleoli:** synthesizes ribosomes

# Sources

Campbell, N. A., & Reece, J. B. (2005). *Biology*. San Francisco: Pearson, Benjamin Cummings.

Molecular Expressions Cell Biology: The Cell Nucleus. (n.d.). Retrieved September 17, 2018, from <https://micro.magnet.fsu.edu/cells/nucleus/nucleus.html>

Nucleus. (n.d.). Retrieved September 20, 2018, from <http://www.biologyreference.com/Mo-Nu/Nucleus.html>