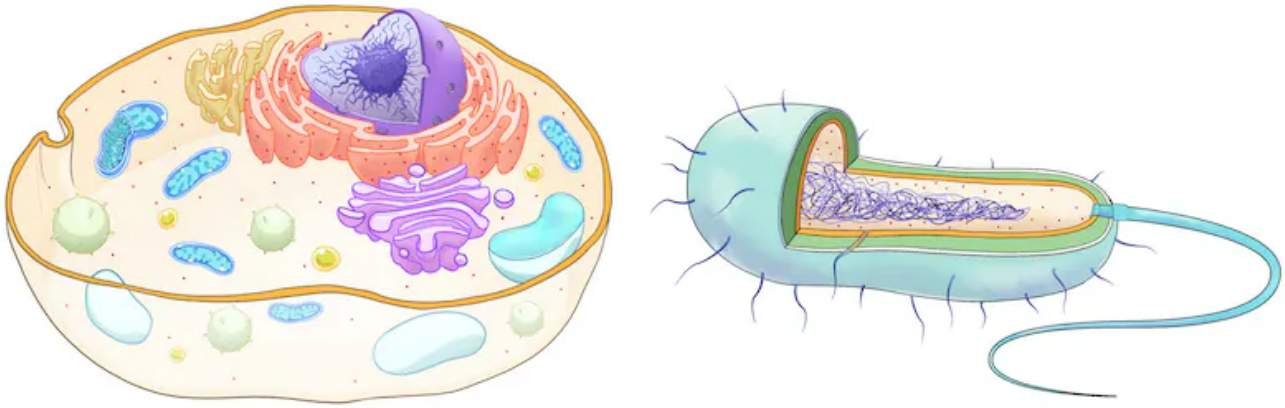
Eukaryotic vs. prokaryotic cells

By Newsela staff, Newsela staff on 06.04.20
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Cells that make up every living organism on Earth fall into two groups: eukaryotic cells and prokaryotic cells. In general, eukaryotic cells are more complex than prokaryotic cells. Additionally, eukaryotic and prokaryotic cells differ in size. Eukaryotic cells are bigger than prokaryotic cells. tk

Cells make up every living organism on Earth. These cells fall into two groups: eukaryotic cells and prokaryotic cells. Organisms that are composed of one or more eukaryotic cells are known as eukaryotes. All animals, plants, fungi and protists, such as algae, are eukaryotes. Some eukaryotes are unicellular, which means they consist of a single cell, and some are multicellular, which means they contain many cells. On the other hand, prokaryotes are always unicellular. Organisms such as bacteria and archaea are prokaryotes.

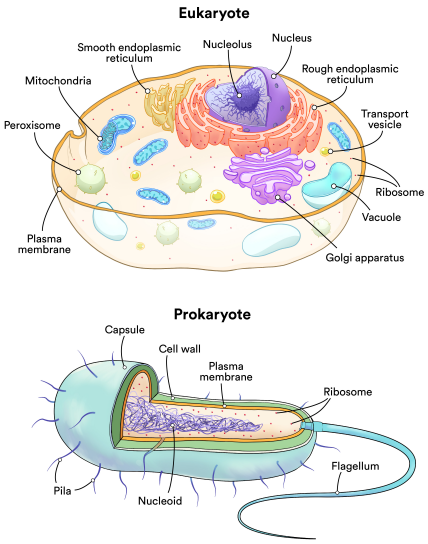


Image 1. Graphic: Newsela staff

All eukaryotic cells contain structures called organelles, which are specialized cell parts that have specific responsibilities. All of these organelles are located in the cytoplasm, which is the material or fluid inside the cell. Most organelles are surrounded by membranes, and they are known as membrane-bound organelles. A membrane is a protective layer that allows an

organelle to control what enters and leaves it. Membrane-bound organelles include the mitochondria, Golgi apparatus, and the nucleus. The nucleus controls the cell's growth and reproduction. It contains DNA, or the genetic material of the cell.

Prokaryotic cells also have a cytoplasm, however, they do not have membrane-bound organelles. They also lack a nucleus. Instead, prokaryotic cells have a nucleoid, which is a large, circular loop of DNA that floats freely in the cytoplasm.

In general, eukaryotic cells are more complex than prokaryotic cells. Because eukaryotic cells contain membrane-bound organelles, they can perform many activities and carry out reactions that prokaryotic cells cannot.

Additionally, eukaryotic and prokaryotic cells differ in size. Eukaryotic cells range from 10 to 100 micrometers. Prokaryotic cells are much smaller, ranging from 1 to 5 micrometers. One thousand micrometers is one millimeter.

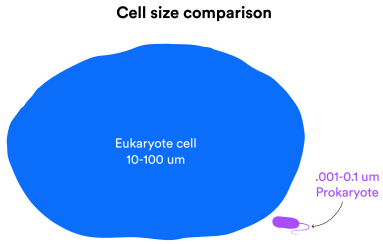


Image 2. Graphic: Newsela staff

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Write a short paragraph that explains the central idea of the article. Use at least two details from the article to support your response.