

Main Topic: Cell Types

Learning Objective/Outcome: distinguish between prokaryotic or eukaryotic cells; specifically the presence of absence of a nucleus.

Topic 1: prokaryotic cells

Ideas

What is a prokaryotic cell?

Prokaryotic cells have no membrane-bound organelles so there is no nucleus therefore the genetic material and ribosomes float freely throughout the cell.

Give an example of a prokaryotic cell.

All bacteria are prokaryotes

What can be found in prokaryotic cells?

Prokaryotic cells often have appendages

Flagella – a tail that whips back and forth for movement

Pili – which help prokaryotic cells hold onto other surface

How are prokaryotic cells similar to eukaryotic cells?

Both have the following in common:

- Genetic Material
- Ribosomes
- Single Cell Organisms
- Cytoplasm

Topic 2: eukaryotic cells

Ideas

What is a eukaryotic cell?

Eukaryotic cells have a nucleus and membrane bound organelles. These cells support complex life forms.

Give an example of a eukaryotic cell.

Plant and animal cells

List organelles found in eukaryotic cells.

- Nucleus
- Mitochondria
- Lysosome
- Golgi Apparatus
- Smooth Endoplasmic Reticulum
- Rough Endoplasmic Reticulum
- Ribosomes

How are prokaryotic cells different from eukaryotic cells?

- Eukaryotic cells are more evolved and have complex organization with compartmentalization
- They are 10x larger than prokaryotic cells
- Use cellular respiration and photosynthesis to gain energy

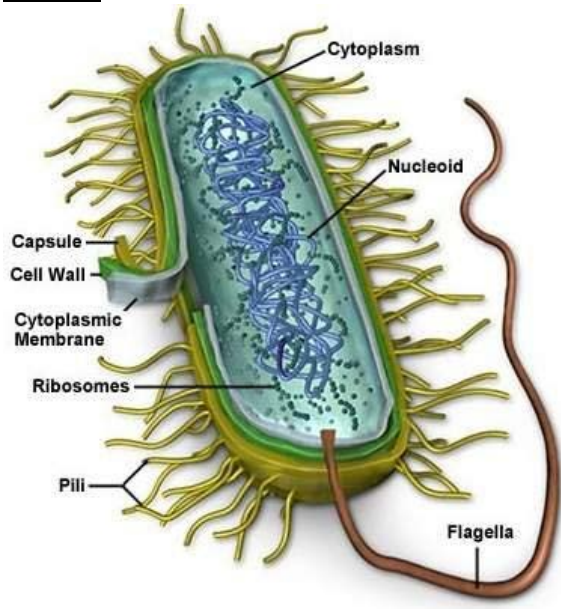
Key Vocabulary

bacteria
appendages
flagella
pili
cytoplasm
plasma membrane
ribosomes

Key Vocabulary

membrane bound organelles
animal cell
plant cell
mitochondria
rough endoplasmic reticulum
lysosome
vesicle
smooth endoplasmic reticulum
Golgi apparatus
nucleus

Pictures



Pictures

