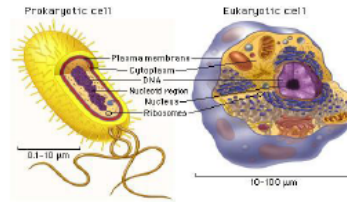


# The Cell Theory

O: We will recognize the components of the Cell Theory.



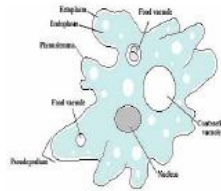
## prokaryote

- No nucleus
- No membrane bound organelles
- All are unicellular
- Cells have a sticky capsule
- All have a cell wall
- All are bacteria
- Smaller

## eukaryote

- Has a nucleus
- Has membrane bound organelles
- Can be unicellular or multicellular
- Has a cytoskeleton
- Not bacteria
- Larger

- ribosomes
- DNA
- cytoplasm
- cell membrane



## unicellular

- Cell organelles have to perform life processes
- Only one cell
- Uses mitosis for reproduction
- Asexual reproduction



## multi-cellular

- Cells can have special functions
- More than one cell
- Uses mitosis for growth and repair
- Asexual or sexual reproduction

- Have organelles
- Some can use asexual repro
- Get energy
- Reproduce
- Eliminate waste

*spontaneous generation* – an old theory that proposed living things could come from non-living matter.

*the cell theory* – describes the basic characteristics of all cells.

1. All organisms are made of cells.
2. Cells are the basic units of structure and function for all living things.
3. All cells come from other cells.

Using the microscope, many scientists were able to come together and agree upon the parts of the cell theory.

As new and more powerful microscopes are created, we learn even more about cells.



Zacharias Jansen  
(1580-1638)

### Zacharias Jansen

Dutch scientist

Built a compound microscope with his father in 1595.



### Anton Von Leeuwenhoek

Dutch scientist that made the first simple microscope.  
Discovered bacteria.



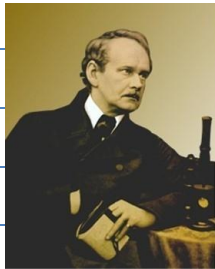
### Robert Hooke

Came up with the word "cell" after studying cork under the microscope.



**Robert Remak**

*Suggested that spontaneous generation was false.*



**Matthias Schleiden**

*German botanist who concluded that all plants are made of cells.*



**Theodor Schwann**

*German physiologist that concluded all animals are made of cells.*

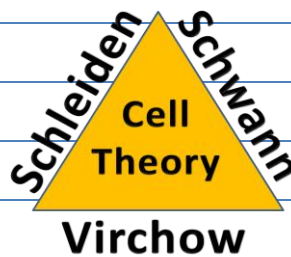
*Proposed that the cell was the smallest functioning unit of life.*



**Rudolf Virchow**

*German histologist that concluded all cells come from other cells.*

*Helped disprove Spontaneous Generation.*



**A:** *The three scientists who contributed to the cell theory are Schleiden, Schwann and Virchow*

O: We will look at the development of the cell theory from spontaneous generation to present day.

A: Anton Von Leeuwenhoeck and Robert Remak

O: We will look at the history of the cell cycle.

A: answers will vary.

O: We will begin an essay pre-write by exploring spontaneous generation.

A: Yes!

O: We will continue pre-write by researching scientists.

A: New technology.

O: We will continue prewrite by researching mitosis.

A: The old theory that living organisms could arise from non-living matter.

O: We will write our final essay on the evolution of the theory of mitosis.

A: Spontaneous generation

O: We will complete final essay on the evolution of the theory of mitosis.

A: The division of a nucleus.