

An abstract graphic on the left side of the slide, consisting of a network of white lines and small circles on a blue gradient background. The lines are vertical and horizontal, with some branching out, resembling a circuit board or a neural network. The circles are small and white, some of which are connected to the lines.

CELL

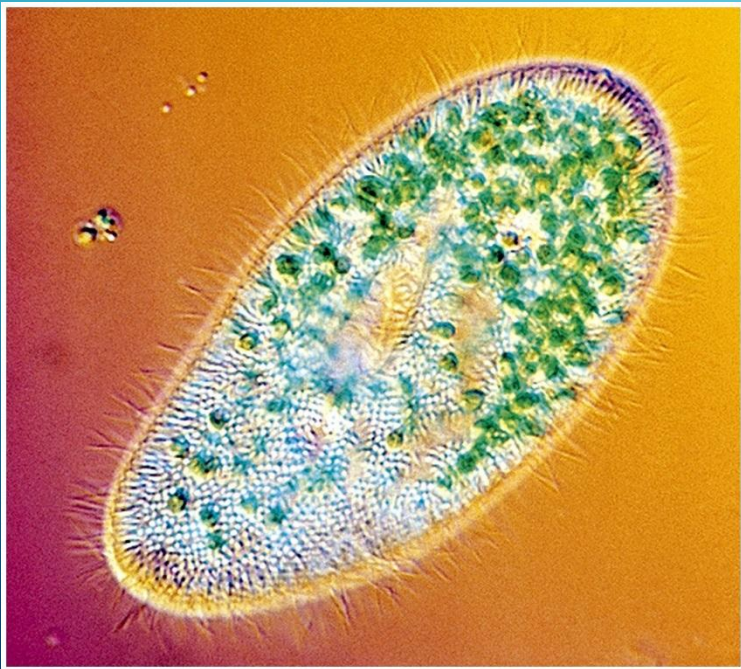
- The cell (from Latin cella, meaning "small room"[1]) is the basic structural, functional, and biological unit of all known living organisms. A cell is the smallest unit of life that can replicate independently, and cells are often called the "building blocks of life". The study of cells is called cell biology.

Outline

- Cell Structure and Organelles
- Cell Molecular Components
- Water and Chemical properties
- Cell Membrane
- Osmotic Properties of cells
- Cell molecule transportation

CELLS

- Smallest living unit
- Most are microscopic



DISCOVERY OF CELLS

- Robert Hooke (mid-1600s)
 - Observed sliver of cork
 - Saw “row of empty boxes”
 - Coined the term cell



CELL THEORY

- (1839)Theodor Schwann & Matthias Schleiden

“ all living things are made of cells”

- (50 yrs. later) Rudolf Virchow

“all cells come from cells”

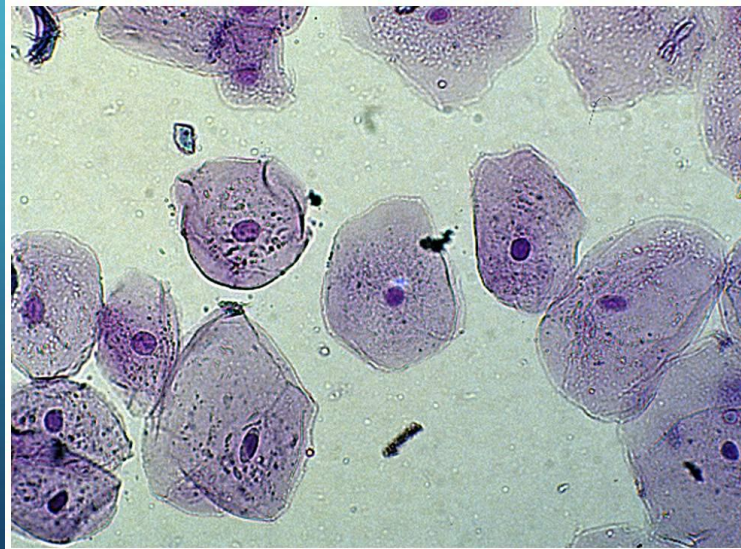


PRINCIPLES OF CELL THEORY

- All living things are made of cells
- Smallest living unit of structure and function of all organisms is the cell
- All cells arise from preexisting cells
(this principle discarded the idea of spontaneous generation)

CHARACTERISTICS OF ALL CELLS

- A surrounding membrane
- Protoplasm – cell contents in thick fluid
- Organelles – structures for cell function
- Control center with DNA



CELL TYPES

- Prokaryotic
- Eukaryotic

