

### intro

Cells----> all living organisms  
Tissues----> group of cells  
Organs----> group of tissues  
Organ systems----> group of organs  
Organism----> group of cells

### Imp discoveries

1665	Robert Hooke	cells (cork)
1674	Leeuwenhoek	living cells (pond)
1831	Robert Brown	nucleus
1839	Purkinje	coined the term "-protoplasm"
1838-39	Schleiden & Schwann	cell theory
1855	Virchow	cell theory
1940	-	discovery of electron microscope

### CELL THEORY

~Cells are the basic structural unit of life  
~Cells are the basic functional unit of life  
~All cells arise from pre-existing cells

### Definitions

**Cell:** the structural and functional unit of life. every living organism is made up of cells

**Unicellular organism:** organisms made of single cells that carry out all functions. Ex- amoeba, bacteria, Chlamydomonas, etc. Usually prokaryotic

**Multicellular organism:** organisms made of multiple cells. Ex- plants and animals. Usually eukaryotic

**Cell organelles:** membrane bound organelles present in cells to support functions performed by it

### Definitions (cont)

**Diffusion:** movement of solid, liquid or gas particles from a region of higher to lower conc.

**Osmosis:** movement of water particles from a region of higher to lower conc. thru a semi-permeable membrane

**Cell division:** the process by which new cells are made

**Mitosis:** process by which most of the cells divide for growth. Each mother/parent cell divides to form 2 identical daughter cells that have the same no. of chromosomes as the mother cell (helps in growth and repair of tissues)

**Meiosis:** a process where a single mother/parent cell divides twice, to produce four daughter cells that each contain half the original amount of chromosomes. These cells are our sex cells – sperm in males, eggs in females (helps in reproduction)

