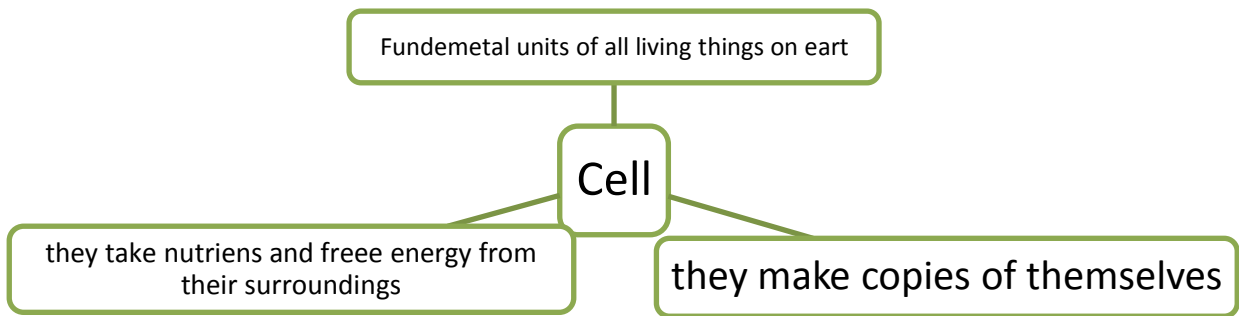
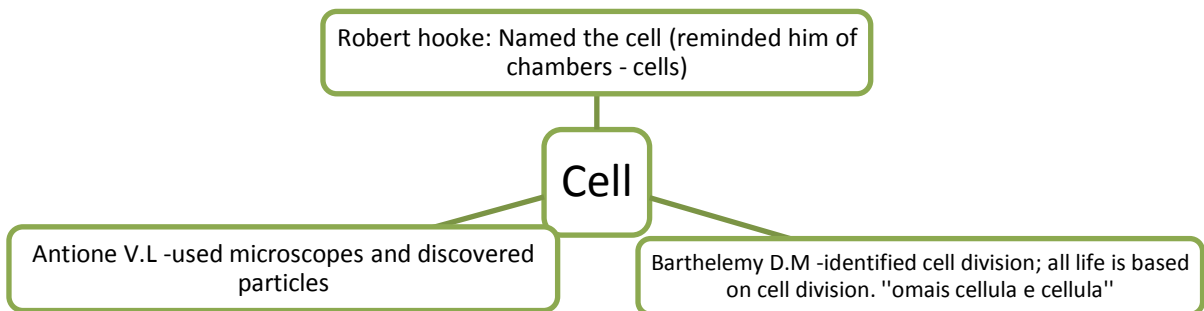


Introduction to the living cell

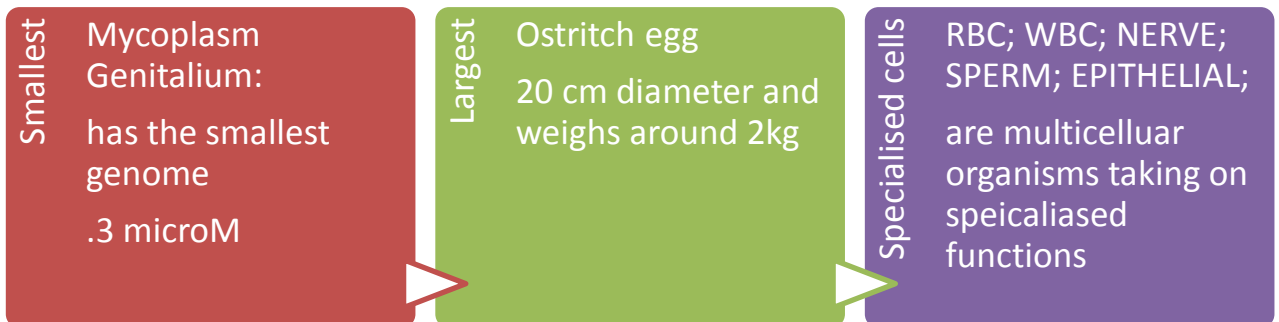
Definition of a cell:



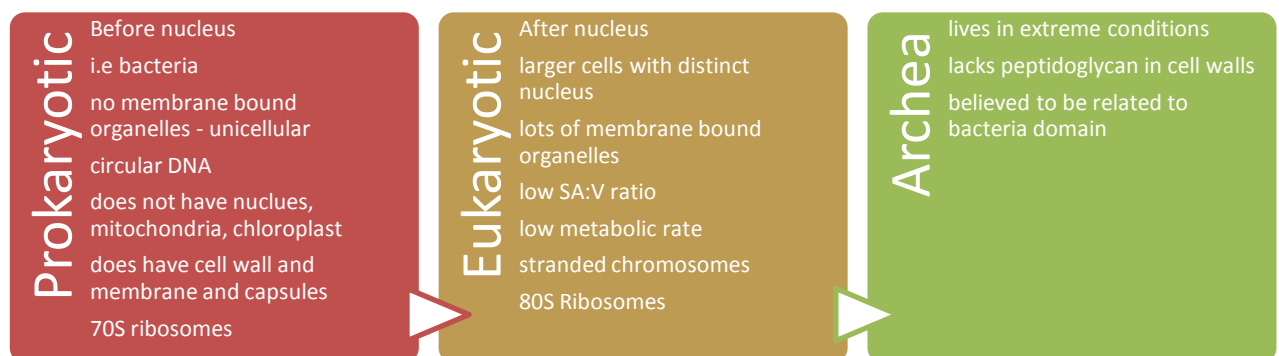
History of the development of cell theory:



Shapes and sizes:



Three major domains of the living world:

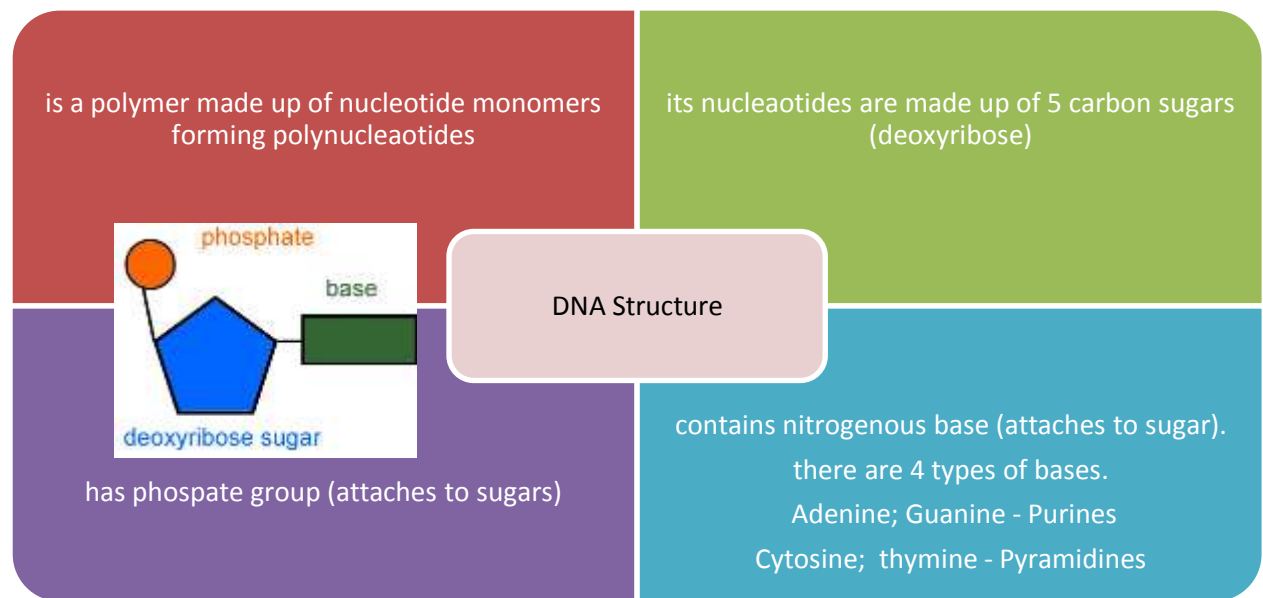


Universal features of cells on earth:

“all cells are surrounded by plasma membranes”

- Made up of lipids (phospholipids and cholesterol); proteins; oligosaccharides
- Functions as a selective barrier that regulates the passage of materials in and out of the cell
- Plasma membrane plays an important role within the interaction of the cell
- It has 2 layers with either specific or nonspecific channels
- The channels are always exchanging molecules with its surroundings

“all cells store their hereditary information as DNA”



Features of the 5'd structure

- Alternating backbone of deoxyribose and phosphodiester groups
- Chain has direction (known as polarity) 5'-3' from top to bottom
- Oxygen of phosphate is polar. -ve charge
- A,C,T,G stack away or top of one another
- Bases are hydrophobic

DNA – Double helix

- DNA is a double stranded macromolecule
- 2 polynucleotide chains are held together by weak thermodynamic forces to form DNA
- The DNA strands form a helical spiral winding shape
- The 2 polynucleotide chains run in opp sides
- The sugar backbones = like railways of spiral staircase
- The bases of the nucleotides = like the stops of the staircase