

BIOL1001: Cells and Molecules: HD Colour Notes

Cells: Basic structural and functional unit of every organism

- Small membrane bound compartments
- Single or multicellular organism

Prokaryotes:

- No true nucleus
- No membrane bound organelles
- No membrane around DNA
- Archaea bacteria

Eukaryotes:

- True membranes and nucleus
- Membrane bound organelles each with different functions and proteins embedded
- Multicellular organisms

SA:V ratio

- All cells are small need a high surface area to volume ratio for: exchanging molecules with the environment, increasing internal SA for biochemical reactions

Parts of the cell

Cytoplasm:

- everything in the cell except the nucleus
- Cytosol: liquid component (not including organelles) of the cytoplasm

Cellular membranes:

- all cells bound by a plasma membrane (double phospholipid bilayer)

Nucleus:

- surrounded by double lipid bilayer, nuclear envelope
- substances move in/out nuclear pores
- stores genetic information of cell in form of chromatin (chromosomes wound around histones)
- nucleolus (small nucleus) makes ribosomal components(rRNA and proteins)

Ribosomes:

- Synthesise proteins from amino acids