INTRODUCTION TO CELLS NOTES

HISTORY
Schleiden
- All plants made of cells
Schwann
- All animals made of cells
Leeuwenhoek (1600s Holland)
- Improves microscope
- Sees tiny organisms in drop of water
Hooke (England, 1655)
- Looked at cork under microscope
- Saw tiny chambers and called them “cells”
Virchow
- A cell must come from a preexisting cell (cells must come from other cells)
  (did not support spontaneous generation)

CELL THEORY
1. All living things made of cells
2. Cells are the basic unit of structure & function in living things
3. New cells must come from existing cells

2 TYPES OF CELLS:
Prokaryotes
no nucleus
usually small & simple
has DNA, cell membrane & cytoplasm
no organelles
usually unicellular (one cell)

Example: bacteria

Eukaryotes
has nucleus
usually large & complex
has cell membrane & cytoplasm
has organelles (organs in a cell)
usually multicellular

Example: You are a Eukaryote
Prokaryotes vs. Eukaryotes Notes

Remember: You are a Eukaryote

Prokaryotes

Examples:
- Bacteria

Characteristics of Prokaryotes
- Simple
- Small cell size
- Single-celled (unicellular)
- No organelles
- No nucleus
- Cell Wall

Eukaryotes

Examples:
- Humans
- Plants
- Grasshoppers

Characteristics of Eukaryotes
- Complex
- Large cell size
- Multicellular
- Organelles
- Nucleus

Characteristics

Prokaryotes & Eukaryotes
Share
- DNA
- Ribosomes
- Cell Membrane
- Cytoplasm

2 Types of Eukaryotes: Plant Cells Vs. Animal Cells

Plant Cells
- Cell Wall (rigid armor outside cell membrane)
- Chloroplasts (organelle for photosynthesis)
- No Centrioles

Animal Cells
- No cell wall
- No chloroplasts
- Centrioles (make microtubules)