1 | Organelles in Eukaryotic Cells

1.1 | An Introduction.

Many organells exist in a cell — often more in Eukaryotic cells — that help execute the cell's functions. They serve a variety of purposes, and help form the basics of cellular systems. Categorizing them based on whether or not they have membranes KBhBIO101OrganellsBasedOnMembranes

1.2 | Chloroplast and Mitochondria

- **Chloroplast** — found in plants + does photosynthesis
- **Mitochondria** — found in animals + store ATP and extract energy from ATP

1.3 | Rough Endoplasmic Reticulum (ER) and Smooth ER

- **Rough ER** — covered by ribosomes and folds KBhBIO101Proteins proteins
- **Smooth ER** — not covered by ribosomes and makes KBhBIO101Lipids lipids

1.4 | Ribosomes and Golgi apparatus

- **Ribosomes** => synthesizes proteins
- **Golgi apparatus** => packs, modifying, and moving proteins

1.5 | Cell Wall and Plasma Membrane

- **Cell Wall** — found in plants => surround the cell: hard
- **Plasma membrane** — found in animals => surround the cell: soft KBhBIO101Lipids lipids

1.6 | Cytosol, Cytoplasm and Cytoskeleton

- **Cytosol** => liquid found inside cells; the "cytoplasm" floats within it
- **Cytoplasm** => all the stuff within the cell

1.7 | Nucleus and Nucleolus

- **Nucleus** => centre of the cell, stores DNA
- **Nucleolus** => largest part of the nucleous that makes ribosomes

1.8 | Lysosomes and Food Vacuoles

- **Lysosomes** => vesticles that contains enzymes that breaks down biomolecules
- **Food Vacoules** => vesticels that stores food and other resources

1.9 | Cytoskeleton and Microtubules

- **Cytoskeleton** => complex network of proteins + fibres that organize the rest of the cell
- **Microtubulues** => Polymers of tubulin protein that provides the main structure of eukarotic cells

1.10 | Flagella and Cilia

- **Flagella** => a bacteria's tail — allow them to move and also act as an sensory organ. longer than a cilla, and moves in sinosoidial pattern.
- **Cilium** => a cell's "hair" — provides sensory and communications functions. Motil cilla could move about to "grab" things, and non-motile cilla can't move. more abundant that the flagella, and moves in circular pattern if they do move, and moves in circular pattern if they do move