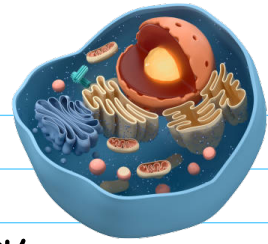
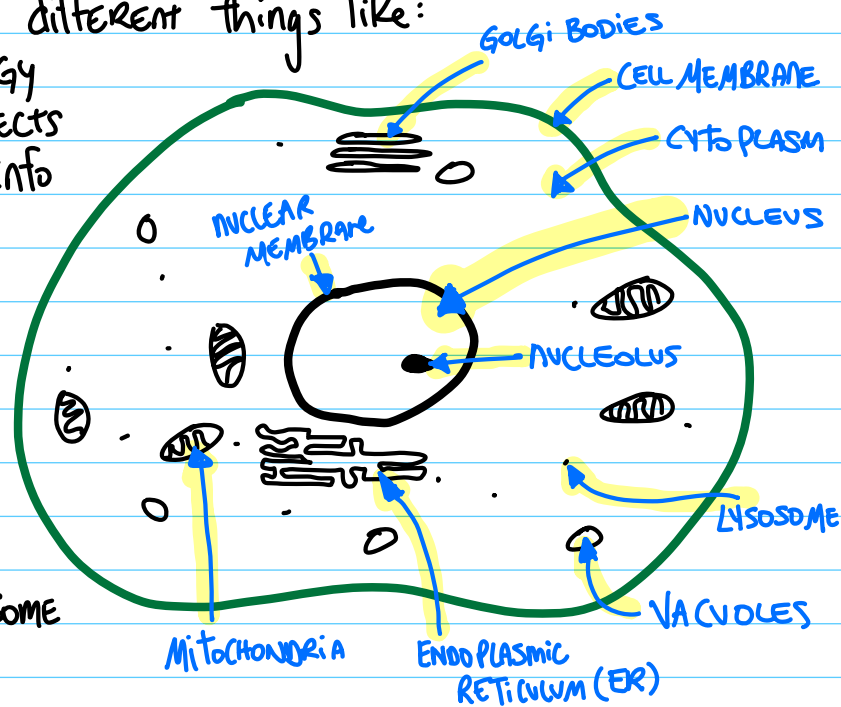


THE CELL: PART 2



CELLS ARE MADE OF SMALL PARTS CALLED **ORGANELLES** THAT DO DIFFERENT THINGS LIKE:

- PROCESS/RELEASE ENERGY
- DESTROY/DIGEST OBJECTS
- REPLICATE GENETIC INFO



CELL MEMBRANE

- OUTER LAYER OF THE CELL
- HOLDS IT TOGETHER
- CONTROLS FLOW OF MATERIAL IN/OUT OF THE CELL
- CAN BE **SEMI PERMEABLE** OR **SELECTIVELY PERMEABLE** (LETS SOME THINGS IN BUT NOT EVERYTHING)

CELL WALL

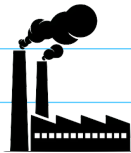
- **PLANT CELLS** HAVE A CELL WALL AND CELL MEMBRANE
- TOUGH & RIDGED OUTER LAYER → GIVES CELL ITS SHAPE
- MANY MADE OF **CELLULOSE**

CYTOPLASM



- JELLYLIKE SUBSTANCE INSIDE WALLS, CONTAINS ALL STRUCTURES & ORGANELLES

RI BOSOMES



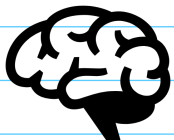
- PROTEIN MAKING FACTORIES IN CELL.
- ↳ ESSENTIAL IN ALL CELLS.

CYTO SKELETON

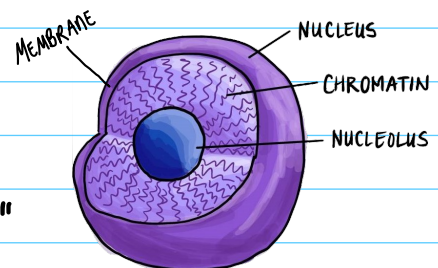
- THIN PROTEIN FIBERS & TUBES, KEEPS STRUCTURE & HELPS TRANSPORT THINGS THROUGH CELL

NUCLEUS

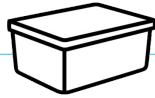
- CONTRA CENTER OF CELL
- CONTAINS THE CELL'S **CHROMOSOMES**
- **NUCLEAR MEMBRANE** → THE "CELL MEMBRANE" OF THE NUCLEUS, PROTECTIVE LAYER
- **NUCLEOLUS** → SMALL STRUCTURE THAT MAKE & TRANSPORT **RI BOSOMES** INTO **CYTOPLASM**



Cell's DNA



VACUOLES



- TEMPORARY STORAGE BUBBLES FOR THE CELL.
- STORE FOOD, H_2O , WASTE FOR CELL TO USE LATER
- IN PLANT CELLS VACUOLES CAN BE HUGE



LYSOSOME

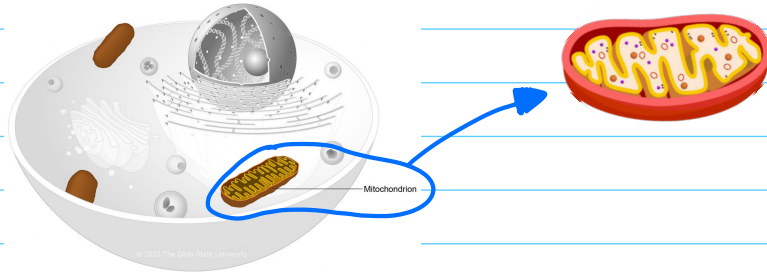
BREAKS DOWN FOOD, CELL WASTE, BACTERIA

- GARBAGE/RECYCLING CENTER
- DIGESTS/DESTROYS OLD CELLS OR OLD CELL PARTS TO MAKE NEW CELLS.

MITOCHONDRIA



- A CELL'S POWERHOUSE → RELEASE ENERGY IN FOOD BY CARRYING OUT REACTIONS (w/ oxygen)
- CELLS THAT NEED MORE ENERGY (LIKE MUSCLE CELLS) HAVE MORE MITOCHONDRIA



ENDOPLASMIC RETICULUM [ER]



- TRANSPORT FACILITY FOR CELL
- MADE OF FOLDED MEMBRANE → PROCESSES/MOVES MATERIAL AROUND CELL
- 2 TYPES
 - SMOOTH ER → MAKES LIPIDS/FAT
 - ROUGH ER → MAKES PROTEIN

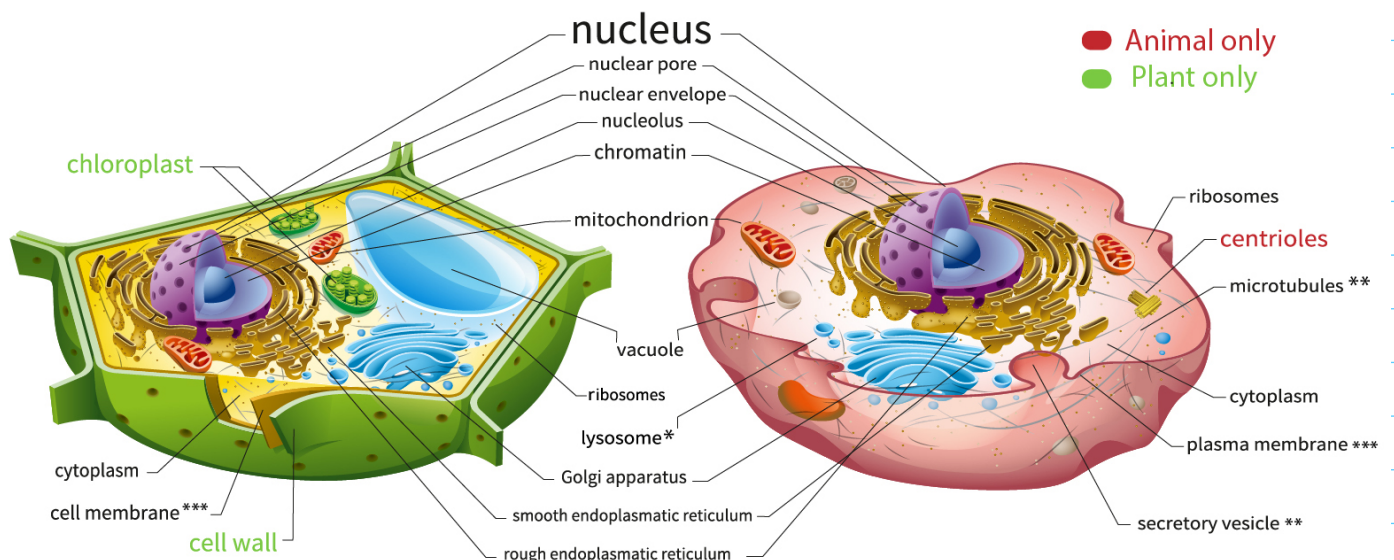
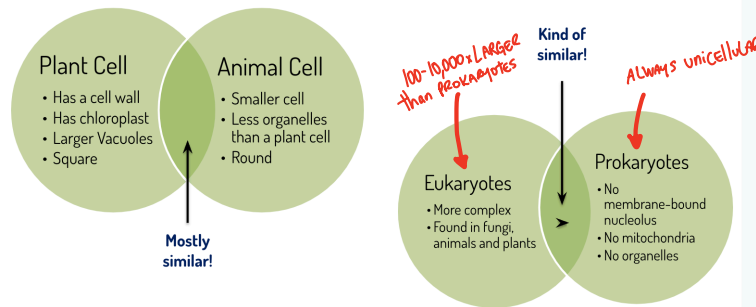
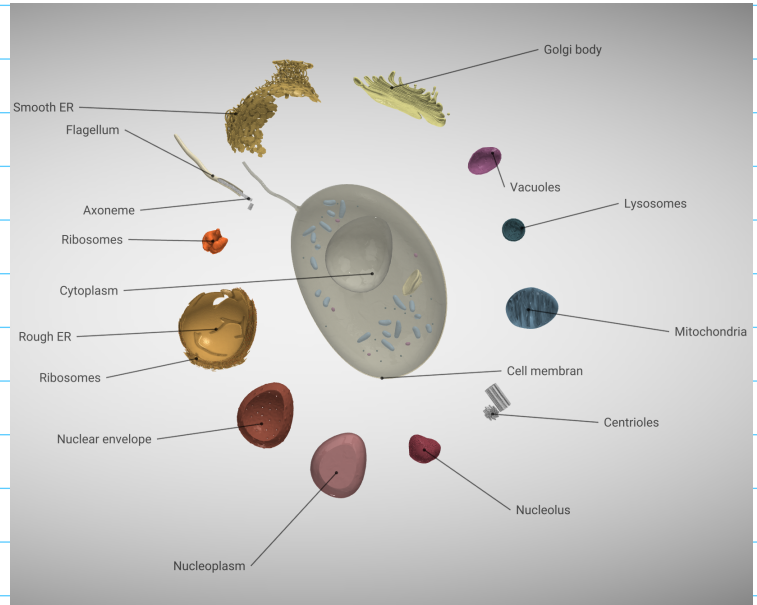
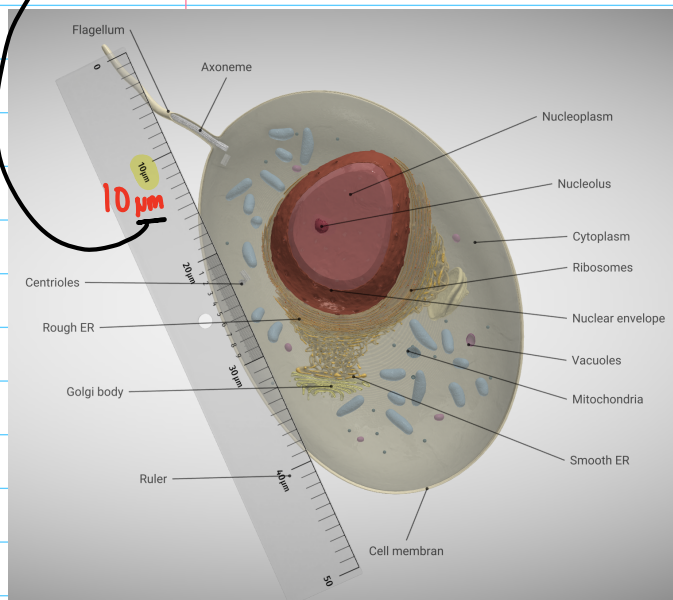
GOlGi BODIES

- PACKING/SORTING/DISTRIBUTING FACILITIES
- MOVE PROTEINS FROM ER TO OTHER PARTS OF CELL

CHLOROPLAST

- ONLY IN PLANT CELLS
- FOOD PRODUCTION → CONTAINS CHLOROPHYLL → GREEN PIGMENT THAT MAKES PLANTS LOOK GREEN

nm = Micrometre = ONE BILLIONTH OF A METER



* Plants may have lytic vacuoles, which act like lysosomes in animal cells.
 ** Although they're not labelled here, plant cells have microtubules and secretory vesicles, too.
 *** Cell membrane and plasma membrane are just different names for the same structure.