7-2 Eukaryotic Cell Structure

**Define the following structures using your textbook pg. 174 – 183.**

**ORGANELLES**

Organelle= “little organ”

Found only inside **eukaryotic cells**

All the stuff in between the organelles is cytosol

Area between the nucleus and the cell membrane is the cytoplasm

**CELL MEMBRANE**

Selective barrier controlling what goes in and out of cells

Selectively permeable – only allows certain items through

Made of a phospholipid bilayer with proteins embedded in it

**NUCLEUS**

“brain of the cell”: Control center contains **DNA**

Surrounded by a double membrane

Usually one per cell

**NUCLEAR MEMBRANE**

A double membrane that surrounds the nucleus

Contains many small pores to allow molecules to pass through

**NUCLEOLUS**

Within the nucleus

Produces ribosomes (which manufacture proteins)

**CHROMOSOMES**

Large structures of protein and DNA that contain genetic information

**ENDOPLASMIC RETICULUM (ER)**

Connected to nuclear membrane

Highway of the cell: transport system

Rough ER: studded with ribosomes; it makes proteins

Smooth ER: no ribosomes; it makes lipids

**RIBOSOME**

Site of protein synthesis

Found attached to rough ER or floating free in cytosol

Produced in nucleolus

**GOLGI APPARATUS**

Looks like a stack of plates

Stores, modifies and packages proteins

Molecules transported to and from the Golgi by means of vesicles

**LYSOSOMES**

“trash collectors”

Contain digestive enzymes that break down wastes

Formed by golgi

**MITOCHONDRIA**

“Powerhouse of the cell” = produces energy (ATP)

Site of Cellular respiration

Sugar + oxygen 🡪 carbon dioxide + water + ATP

Bound by a double membrane

Has its own strand of DNA

**CYTOSKELETON**

Acts as **skeleton** and **muscle**

Provides shape and structure to cell

Helps move organelles around the cell

Made of three types of filaments

**CHLOROPLAST**

Found only in plant cells

Contains the green pigment chlorophyll

Site of food (glucose) production

Bound by a double membrane

**CELL WALL**

Found in plant and bacterial cells

Rigid, protective barrier

Located outside of the cell membrane

Made of cellulose (fiber)

**VACUOLE**

Large central vacuole usually in plant cells

Many smaller vacuoles in animal cells = vesicle

Storage container for water, food, enzymes, wastes, pigments, etc.

**CENTRIOLE**

Aids in cell division

Usually found only in animal cells

Made of microtubules