Unit 3: Cell Notes

**Human Cells-** basic unit of \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_, 200 different types, made of C,H,O,N and trace elements

**Cell Differentiation-**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |
| --- | --- | --- |
| Cytoplasm | Nucleus | Plasma membrane |
| FUNCTION:  Cytosol-  Inclusions-  Organelles-  Membranous:   * Mitochondria * Peroxisomes * Lysosomes * Rough endoplasmic reticulum * Smooth endoplasmic reticulum * Golgi Apparatus * Vesicles   Nonmembranous:   * Cytoskeleton * Centrioles * Ribosomes | FUNCTION:  Control Center 🡪  Multinucleate  Anucleate   * Nuclear envelope * Nucleoli * Chromatin | FUNCTION:  Fluid Mosaic Model:   * Phospholipid bilayer * Cholesterol * Glycolipids * Glycoproteins * Proteins   Functions:   1. Transport 2. Receive Chemical Messages 3. Maintain cell shape 4. Enzyme activity 5. Intercellular Joining 6. Cell-cell recognition ID tags   Integral-  Peripheral- |

**Extracellular Materials**

1. Body fluids
2. Cellular secretions
3. Extracellular Matrix

**Membrane Transport**

Interstitial Fluid: found outside of cells

Selective Permeability:

Nutrients \_\_\_, Waste \_\_\_\_

|  |  |  |
| --- | --- | --- |
| Passive Transport | Active Transport | Vesicular Transport |
| * No \_\_\_\_\_\_\_\_\_ needed * Molecules move down concentration gradient   Diffusion:  Simple-  Ex:  Facilitated-  Ex:  Channel proteins:  Carrier proteins:  Osmosis: diffusion of H2O  Aquaporins  Hypertonic-  Hypotonic-  Isotonic- | * \_\_\_\_\_\_\_\_ needed * Molecules move against concentration gradient   Primary Active Transport  Ex:  Secondary Active Transport  Ex: | * Fluid particles transported across membranes in \_\_\_\_\_\_\_\_\_\_\_   Endocytosis:   * Phagocytosis * Pinocytosis * Receptor-mediated endocytosis   Exocytosis: |

**Cell Replication-**

During cell division, chromatin condenses to form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mitosis:

Interphase 🡪 Prophase 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_ 🡪 Anaphase 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_&\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Gene:

Intron:

Exon:

**Protein Synthesis- DNA 🡪 RNA 🡪 PROTEIN**

Transcription:

Translation: