Biology Notes

Parts of a microscope:



Functions of microscope parts:

1. Arm –
2. Base –
3. Body tube –
4. Eyepiece –
5. Nosepiece –
6. Objective lens –

High power –

Medium power –

Low power –

1. Stage –
2. Stage clips –
3. Diaphragm –
4. Course adjustment knob –
5. Fine adjustment knob –
6. Light source –

Magnification –

 Total magnification –

|  |  |  |
| --- | --- | --- |
| **Eyepiece** | **Objective lens**  | **Total Magnification**  |
| 10x  | 10x  |  |
| 10x  | 40x  |  |
| 5x  | 10x  |  |
| 5x  | 40x  |  |
| 20x  | 10x  |  |
| 20x  | 40x  |  |

Discovery of cells

 Robert Hooke –

 Anton van Leeuwenhoek –

 Matthias Schleiden –

 Theodor Schwann –

 Rudolf Virchow –

Cell Theory

1.
2.
3.

Theory of Spontaneous Generation –

Advancing the microscope

 Light microscopes –

 Advantages –

 Disadvantages –

 Electron microscopes –

 Advantages –

 Disadvantages –

 Transmission electron microscope (TEM) –

 Scanning electron microscope (SEM) –

Types of cells:

 Prokaryotic –

 Eukaryotic –

C ell Parts:

 Cell membrane –

 Cytoplasm –

 Cytoskeleton –

 Nucleus –

 Nucleolus –

 Nuclear envelope -

Organelles –

 Mitochondria –

 Ribosomes –

 Endoplasmic Reticulum (ER) –

 Smooth –

 Rough –

 Golgi Body –

 Lysosomes –

 Vacuole –

 Chloroplasts –

 Cell Wall –

Specialized Structures -

Movement through the membrane

Passive Transport –

* Moves from \_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_
1. Diffusion –
2. Osmosis –
* Hypotonic

Solute concentration\_\_\_\_\_\_\_\_\_\_\_

Water concentration\_\_\_\_\_\_\_\_\_\_\_

Water movement\_\_\_\_\_\_\_\_\_\_\_\_\_

Effect on cell\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Isotonic

Solute concentration\_\_\_\_\_\_\_\_\_\_\_

Water concentration\_\_\_\_\_\_\_\_\_\_\_

Water movement\_\_\_\_\_\_\_\_\_\_\_\_\_

Effect on cell\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Hypertonic

Solute concentration\_\_\_\_\_\_\_\_\_\_\_

Water concentration\_\_\_\_\_\_\_\_\_\_\_

Water movement\_\_\_\_\_\_\_\_\_\_\_\_\_

Effect on cell\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

C. Facilitated Diffusion –

Active Transport –

* Moves from \_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_
1. Endocytosis –
2. Exocytosis -