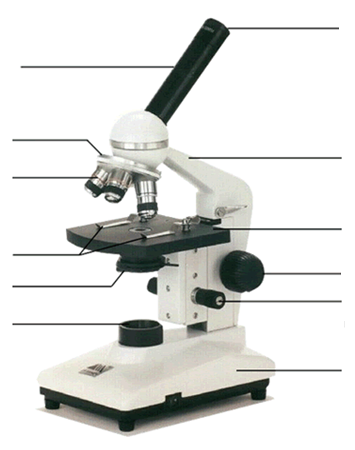
Biology Notes

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



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 -