

Basic unit of life
 Smallest unit of matter that can carry on all process of life

Discovery of Cells

Robert Hooke (1665)

- English scientist
- invented microscope
- looked at cork (**DEAD plant cells**) with an early **compound microscope**
- saw tiny empty boxes
- named them "cells" because of similarity to Monks chambers

Anton Van Leeuwenhoek (1763)

- microscope maker
- looked at pond water
- used a **single lens microscope**
- saw microscopic organisms (**LIVING cells**)

Cell Size

- ✓ few can be seen with unaided eye
Ex. nerve cells in giraffe's leg, chicken egg
- ✓ most plant and animal cells are .002" in diameter
- ✓ must use microscope to see

Cell Shape

- ✓ depends on **function**
Ex. nerve cells- transmit and receive nerve impulses
 skin cells- cover body surface
 white blood cells- can change shape to navigate then isolate, engulf and destroy invading bacteria

Cell Theory

Started when scientists organized cell observations

Matthias Schleiden (1838)

- **botanist**
- concluded that **all plants** were made of cells

Theodor Schwann (1839)

- **zoologist**
- concluded that **all animals** were made of cells

Rudolph Virchow (1855)

- **doctor**
- concluded that new cells were created only by **reproduction** (division) of existing cells

Cell Theory states:

1. All living things are composed of **1 or more cells**
2. **Cells are basic units** of structure and function in living things
3. New cell are produced only from **reproduction of existing ones**

Cell Diversity

- ✓ not all cells are alike
- ✓ even cells from the same organism show diversity in size, shape, and internal organization
Ex. your body contains at least 200 different cell types