

## Introduction to Human Anatomy and Physiology

- I. Terms
  - a. Anatomy - study of structures (morphology)
  - b. Physiology studies the functions or they work
  - c. The two are interrelated because the function depends on how it is constructed.
- II. The Book's Characteristics of Life include:
  1. Movement (internal or gross)
  2. Growth (increase in size without change in shape)
  3. Reproduction (new organisms or new cells)
  4. Respiration (use of oxygen; removal of CO<sub>2</sub>)
  5. Digestion (breakdown of food into simpler forms)
  6. Absorption (movement of substances through membranes and into fluids)
  7. Circulation (movement within body fluids)
  8. Assimilation (changing nutrients into chemically different forms)
  9. Excretion (removal of metabolic wastes)
  10. Responsiveness (reaction to internal or external change)
  - a. Metabolism - all the chemical reactions in an organism
  - b. Homeostasis:- Maintenance of a stable internal environment
  - c. Negative Feedback System – returns a deviated condition back towards a set point.
  - d. Positive Feedback System – Push the disturbance further from the set point. Ex. – child birth, blood clotting
- III. Levels of Organization:
  - a. Atom
  - b. Molecule
  - c. Macromolecule
  - d. Organelle
  - e. Cell
  - f. Tissue
  - g. Organ
  - h. Organ system
  - i. Organism
- IV. Body Cavities:
  - a. Body is divided into
    1. appendicular portion (limbs)
    2. axial portion (head and trunk)
      1. includes dorsal (back) and ventral (front) cavities.
        - a. dorsal cavity is made of the cranial cavity and vertebral canal.

- b. ventral cavity is made up of a thoracic cavity and an abdominopelvic cavity, separated by the diaphragm
    - b. Serous Membranes line organs and cavities:
      - 1. lungs are surrounded by pleura
      - 2. heart is surrounded by pericardium
      - 3. Peritoneum lines the abdominopelvic cavity
      - 4. Serous fluid lubricates
- V. Anatomical Position - standing, feet pointing out, palms out
- VI. Terms of relative position
  - a. Superior – above
  - b. Inferior – below
  - c. Anterior – toward front
  - d. Posterior – toward back
  - e. Medial – to the middle or midline
  - f. Lateral – away from the middle
  - g. Proximal – closer to the point of attachment
  - h. Distal – further from the point of attachment
  - i. Superficial (peripheral) – toward or on surface
  - j. Deep – away from surface
- VII. Body Sections:
  - a. Saggital
  - b. Transverse
  - c. coronal
- VIII. Organ Sections:
  - a. cross section
  - b. oblique section
  - c. longitudinal section
- IX. Subdivide Abdominal
  - a. Nine Regions
    - 1. Right hypochondriac
    - 2. Epigastric
    - 3. Left hypochondriac
    - 4. Right lumbar
    - 5. Umbilical
    - 6. Left lumbar
    - 7. Right iliac
    - 8. Hypogastriac
    - 9. Left iliac
  - b. Four Quadrants
    - 1. Right upper
    - 2. Left upper
    - 3. Right lower
    - 4. Left lower