

Anatomy

Study of the structure & shape of the human body.

Gross Anatomy Microscopic Anatomy

- Study of body structures visible to the naked eye. - Study of body structures using a microscope

- AKA Macroscopic Anatomy - Structures too small to see with the naked eye

EX: Surface Anatomy EX: Cytology

Homeostasis

Physiology

Study of processes/functions of the body, how anatomical parts work, what they do and why they do it.

Levels of Structural Organization

Chemical Interactions and combinations of atoms

Cellular Combinations of molecules forming cells

Tissues Similar cells working together to perform a similar function

Organs Several different types of tissues that work together to perform a similar task

System Several organs that each have a specific function in the overall activity of a body system

Organismal All body systems

Major Organ Systems of the Body

11 major systems that all work together to sustain life.

Integumentary Skin, accessory organs (hair, nails, sweat glands, sebaceous glands)

Covers and protects tissues, regulates body temperature

Skeletal Bones and associated cartilage

Protects and supports organs

Forms blood cells

Stores minerals

Muscular Skeletal, smooth and cardiac muscle

Produces movement

Provides body heat

Maintains posture

Nervous Brain, spinal cord, associated nerves

Coordinates body activities through rapid activation of muscles and glands

Endocrine Ductless glands that secrete hormones

Regulates metabolism and chemical reactions

Cardiovascular Heart and Blood vessels

Transports nutrients, gases and other substances

Provides a medium for disease control

Lymphatic/Immune Lymphatic vessels and lymph nodes

Returns extra cellular fluid to the blood

Defends against disease

Major Organ Systems of the Body (cont)

Respiratory Lungs and tubes that bring air to and from the lungs

Breaks down and absorbs nutrients

Urinary Kidneys, ureters, urinary bladder, urethra

Removes metabolic wastes

Regulates fluid levels

Regulated acid-base levels

Reproductive (Male) Testes, glands, ducts, penis

(Female) Ovaries, ducts, uterus, vagina

Survival of the human species