

TOPIC: BASIC ANATOMY

1. The human body is composed of:

A. Cells - the basic structural unit of all living things. Cell function, size and shape may be different but each cell takes in food, water and oxygen, and eliminates waste to live and perform functions. **B. Tissues** - groups of similar cells that combine to perform a particular function. **C. Organs** - group of tissues forming a distinct unit that carries out one or more specific functions. **D. Systems** - groups of organs that work together to carry out a primary body function.

2. Integumentary System structure and function:

A. Skin-prevents germs from entering body and is the first line of defense against infection. **B. Hair**-provides protection to skin and organs. **C. Nails**-protect tips of fingers and toes. **D. Oil glands**-help skin remain moist and smooth. **E. Sweat glands**-cool body.

3. Musculoskeletal System structure and function:

A. Bones - provide the frame for the body. Joints are the point where two bones come together and allow movement. **B. Muscles** - tissue that contracts (shortens) and relaxes (lengthens) to make motion possible. **C. Ligaments** - connect bone to bone and support joints. **D. Tendons** - connect muscles to bones. **E. Cartilage** - cushions joints.

4. Nervous System structure and function:

A. Brain – sends, receives and interprets messages to make sense of the outside world. **B. Spinal cord** – carries messages between nerves and brain. **C. Nerves** - carry messages between brain and the point of stimulation.

5. **Endocrine System** includes glands that produce hormones and secretions to regulate bodily functions.

6. **Reproductive System** structure and function:

- A. 1) **Testes** – glands that produce testosterone and sperm. 2) **Scrotum** – sac containing testes. 3) **Prostate** – gland producing fluid for sperm. 4) **Penis** – external sex organ through which males ejaculate and urinate.
- B. 1) **Ovaries** – produce estrogen, progesterone and ova. 2) **Fallopian tubes** – carry ova from ovaries to uterus. 3) **Uterus** – muscular sac where ova can develop. 4) **Vagina** – muscular canal leading out of body. 5) **Breasts** – produce nutrients for infants.

7. **Urinary System** structure and function:

- A. Kidneys** - filter waste products from blood and produce urine. **B. Ureters** - carry urine from kidneys to bladder. **C. Urinary bladder** - stores urine. **D. Urethra** - carries urine from bladder out of body.

8. **Gastrointestinal System** structure and function:

- A. Mouth** - takes in and masticates food and fluid. **B. Esophagus** – tube that transports masticated food from mouth to stomach. **C. Stomach** - sac that mixes food and fluid with digestive juices. **D. Small intestine** – tube that absorbs nutrients from food. **E. Large intestine** – tube that absorbs water from waste. **F. Rectum** – sac at end of large intestine which stores waste. **G. Anus** – opening at end of rectum through which waste is expelled. **H. Other organs** which aid in digestion include - **gall bladder, liver.**

9. **Circulatory System** structure and function:

- A. Heart** – pumps blood through the body. **B. Blood** - body fluid. **C. Blood vessels** - tubes (arteries, veins, capillaries) through which the blood is transported.

10. **Respiratory System** structure and function:

- A. Mouth and nose** - take in air. **B. Trachea** - tube connecting mouth and nose to lungs. **C. Lungs** - move oxygen from air into blood and remove carbon dioxide (gaseous waste product).