
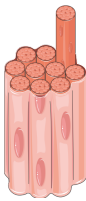





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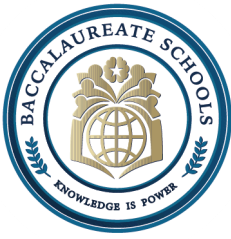
Summary 2.1
Grade 7

SUMMARY NOTES – HUMAN ORGAN SYSTEMS

Part 1: Levels of Organization

| Levels of Organization | | | | |
|---|---|---|---|---|
|  |  |  |  |  |
| cell | tissue | organ | organ system | organism |
| <div>simplest</div> <div>—————→</div> <div>most complex</div> | | | | |

| a. Cells | | | | |
|-------------|--|------------|-------------|------------|
| Definition: | The basic structural and functional unit of living things. | | | |
| 4 Examples: | skin cell | nerve cell | muscle cell | blood cell |



| b. Tissues | | | | |
|-------------|---|-----------------|--------|------------|
| Definition: | Two or more cells working together to perform a task. | | | |
| 4 Examples: | epithelial | nerve / nervous | muscle | connective |

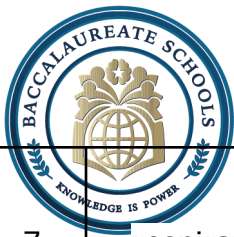
| c. Organs | | | | |
|-------------|---|-------|-------|-------|
| Definition: | Two or more tissues working together to perform a task. | | | |
| 4 Examples: | skin | brain | heart | lungs |

| d. Organ Systems | | | | |
|------------------|--|-----------|-----------|-----------|
| Definition: | Two or more organs working together to perform a task. | | | |
| 4 Examples: | circulatory | digestive | endocrine | excretory |



Part 2: Human Organ System

| Organ System | | Main Function | Main Organs |
|--------------|---------------|--|---|
| 1. | circulatory | To move blood, oxygen, nutrients, carbon dioxide and hormones, around the body | heart, blood, arteries, veins, capillaries |
| Organ System | | Main Function | Main Organs |
| 2. | digestive | Series of connected organs that allow the body to break down and absorb food, and remove waste. | mouth, esophagus, stomach, small & large intestines, rectum, anus |
| 3. | endocrine | Collection of glands that secrete hormones into the blood to regulate bodily functions, such as growth and metabolism. | pituitary, pineal, thyroid, pancreas, adrenals, ovaries, testes |
| 4. | excretory | Produces and eliminates a waste product called urea, which is produced when certain foods are broken down. | kidney, urinary bladder, urethra |
| 5. | immune | The body's defense system against pathogens, including bacteria, viruses, protozoa, and others. | white blood cells, thymus, spleen, bone marrow, lymph nodes |
| 6. | integumentary | Acts as a protective barrier, retains body fluids, eliminates waste products, and regulates body temperature. | skin, hair, nails, skin glands |



| | | | |
|-----|--------------|---|--|
| 7. | respiratory | Allows humans to take in vital oxygen from the air and expel carbon dioxide and water vapor. | lungs, diaphragm, trachea |
| 8. | muscular | Contains over 650 muscles that aid in movement, blood flow, and other bodily functions. | skeletal muscles, smooth muscles, cardiac muscle (heart) |
| 9. | nervous | Sends signals through the body; controls both voluntary actions (e.g. conscious movement) and involuntary actions (e.g. breathing). | brain, spinal cord, nerves |
| 10. | skeletal | Provides shape, support, and protection for the body; allows for movement; produces red blood cells. | bones, tendons, ligaments, cartilage, bone marrow |
| 11. | reproductive | Allows for sexual reproduction; in males it is to produce sperm cells; in females it is to produce eggs. | testes, penis, ovaries, uterus, vagina |