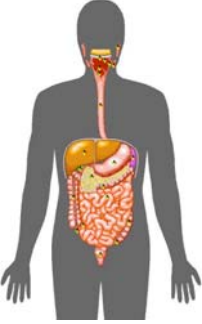
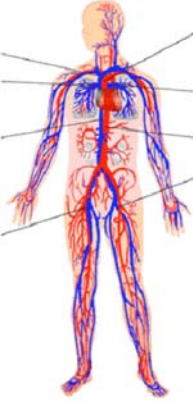
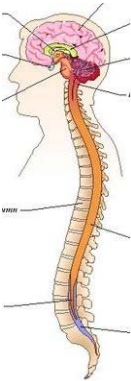
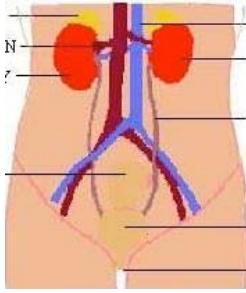
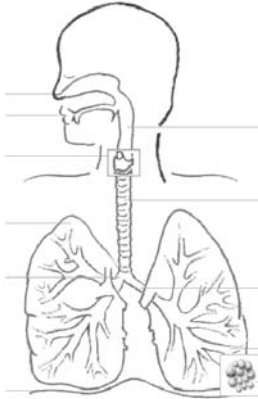


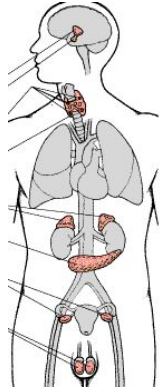
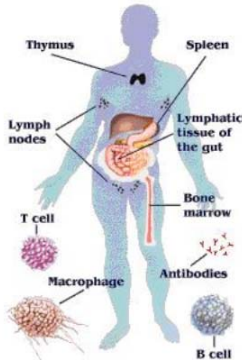



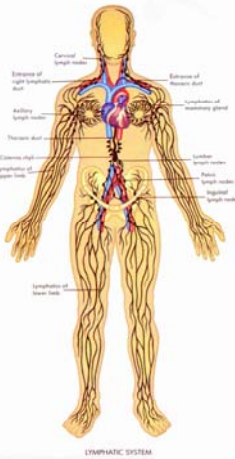
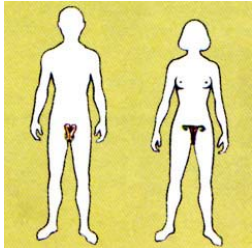
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## THE HUMAN BODY SYSTEMS

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Digestive	<ol style="list-style-type: none"> <li>1. take in food (ingestion)</li> <li>2. digest food into smaller molecules and absorb nutrients</li> <li>3. remove undigestible food from body (feces)</li> </ol>		<p style="text-align: center;">Mouth, esophagus, stomach, Sm. Intestine, Lg. intestine, rectum, anus</p> <p>Salivary glands, pancreas, liver, gall bladder</p>	<ol style="list-style-type: none"> <li>1. w/circulatory - absorb &amp; deliver the digested nutrients to the cells</li> <li>2. w/muscular - control the contractions of many of the digestive organs to pass food along</li> <li>3. w/nervous - hypothalamus maintains homeostasis by triggering appetite (stomach growling), digest.</li> </ol>
Circulatory	<p>Transport materials to and from cells</p>		<p style="text-align: center;">Heart Veins Arteries Capillaries Red blood cells</p>	<ol style="list-style-type: none"> <li>1. w/respiratory - deliver O<sub>2</sub> from lungs to cells and drop off CO<sub>2</sub> from cells to lungs</li> <li>2. w/digestive - absorb and deliver digested nutrients to cells</li> <li>3. w/excretory - kidneys filter cellular waste out of blood for removal</li> <li>4. w/lymphatic - both transport things to and from cells</li> <li>5. w/immune - transports WBCs throughout body to fight disease</li> <li>6. w/nervous - brain controls heartbeat</li> <li>7. w/endocrine - trans. hormones</li> </ol>
Nervous	<ol style="list-style-type: none"> <li>1. gathers and interprets information</li> <li>2. responds to information</li> <li>3. helps maintain homeostasis</li> </ol>		<p style="text-align: center;">Brain Spinal cord</p> <p style="text-align: center;">Nerves Nerve cells = neurons</p> <p>hypothalamus</p>	<p>Controls all other systems</p> <p>Hypothalamus - maintains homeostasis by working with all systems</p>

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Excretory	<ol style="list-style-type: none"> <li>1. removes waste products from cellular metabolism (urea, water, CO<sub>2</sub>)</li> <li>2. filters blood</li> </ol>		<p>Kidneys Ureters Bladder Urethra</p> <p>Lungs Skin - sweat glands Liver (produces urea)</p>	<ol style="list-style-type: none"> <li>1. w/circulatory - filters waste out of blood</li> <li>2. w/lungs - removes excretory waste</li> <li>3. w/integumentary - removes excretory waste</li> </ol>
Respiratory	Takes in oxygen and removes carbon dioxide and water		<p>Nose Trachea Bronchi Bronchioles Alveoli lungs</p>	<ol style="list-style-type: none"> <li>1. w/circulatory - takes in O<sub>2</sub> for delivery to cells and removes CO<sub>2</sub> brought from cells</li> <li>2. w/excretory - removes excretory waste</li> <li>3. w/nervous - controls breathing</li> <li>4. w/muscular - diaphragm controls breathing</li> </ol>
Skeletal	<ol style="list-style-type: none"> <li>1. protects organs</li> <li>2. provides shape, support</li> <li>3. stores materials (fats, minerals)</li> <li>4. produces blood cells</li> <li>5. allows movement</li> </ol>		<p>Bones Cartilage ligaments</p>	<ol style="list-style-type: none"> <li>1. w/muscular - allow movement</li> <li>2. w/circulatory - produce blood cells</li> <li>3. w/immune - produce white blood cells</li> <li>4. w/circulatory and respiratory - protects it's organs</li> </ol>

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Muscular	Allows for movement by contracting		Cardiac muscle Smooth muscle Skeletal muscle tendons	<ol style="list-style-type: none"> <li>1. w/skeletal - allow movement</li> <li>2. w/digestive - allow organs to contract to push food through</li> <li>3. w/respiratory - diaphragm controls breathing</li> <li>4. w/circulatory - controls pumping of blood (heart)</li> <li>5. w/nervous - controls all muscle contractions</li> </ol>
Endocrine	Regulates body activities using hormones. Slow response, long lasting		Glands *Hypothalamus *Pituitary *Thyroid *Thymus *Adrenal *Pancreas *Ovaries *Testes  Glands produce Hormones	<ol style="list-style-type: none"> <li>1. w/circulatory - transports hormones to target organs</li> <li>2. w/nervous - maintain homeostasis, hormone release</li> <li>3. w/reproductive - controlled by hormones</li> <li>4. w/skeletal - controls growth of bones</li> </ol>
Immune	Fights off foreign invaders in the body		White Blood Cells *T cells *B cells -produce antibodies *Macrophages  Skin	<ol style="list-style-type: none"> <li>1. w/circulatory - transports WBCs to fight invaders</li> <li>2. w/lymphatic - has lots of WBCs to fight invaders, spleen filters bacteria/viruses out of blood</li> <li>3. w/skeletal - WBCs made in bone marrow</li> <li>4. w/integumentary - prevents invaders from getting in</li> </ol>

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Integumentary	<ol style="list-style-type: none"> <li>1. barrier against Infection (1<sup>st</sup> line of defense)</li> <li>2. helps regulate body temp.</li> <li>3. removes excretory waste (urea, water)</li> <li>4. protects against sun's UV rays</li> <li>5. produces vitamin D</li> </ol>		<p>SKIN</p> <ul style="list-style-type: none"> <li>*Epidermis</li> <li>*Dermis <ul style="list-style-type: none"> <li>- sweat gland</li> <li>- sebaceous gland (oil)</li> <li>- hair follicle</li> <li>- blood vessels</li> <li>- nerves</li> </ul> </li> </ul>	<ol style="list-style-type: none"> <li>1. w/excretory - removes cellular waste</li> <li>2. w/nervous - controls body temperature (sweating, goose bumps)</li> <li>3. w/immune - prevents pathogens from entering</li> </ol>
Lymphatic	<ol style="list-style-type: none"> <li>1. stores and carries WBC's that fight disease</li> <li>2. collects excess fluid and returns it to blood (2<sup>nd</sup> circulatory system-reaches places other one can't - between cells)</li> </ol>		<p>Lymph (liquid part of blood - plasma, when it's in lymph vessels)</p> <p>Lymph Vessels Lymph Nodes Contain WBCs</p>	<ol style="list-style-type: none"> <li>1. w/immune - holds lots of WBCs to fight pathogens</li> <li>2. w/circulatory - to transport materials to and from cells</li> </ol>
Reproductive	<p>Allows organisms to reproduce which prevents their species from becoming extinct.</p>		<p>Ovaries *produce eggs</p> <p>Testes *produce sperm</p>	<ol style="list-style-type: none"> <li>1. w/endocrine - controls production of sex cells</li> <li>2. w/muscular - uterus contracts to give birth - controlled by hormones</li> </ol>