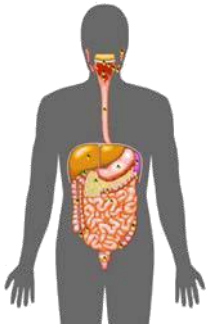
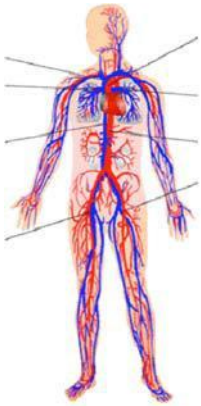
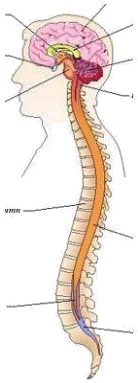
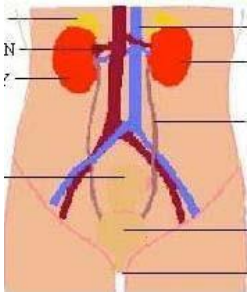
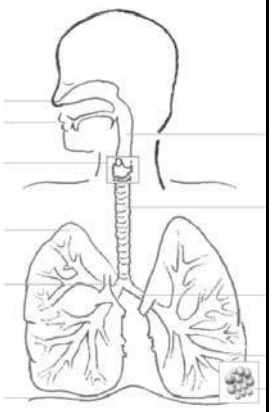
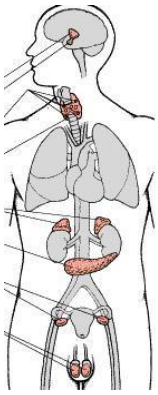
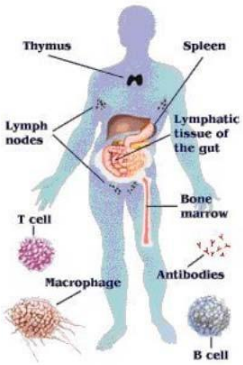
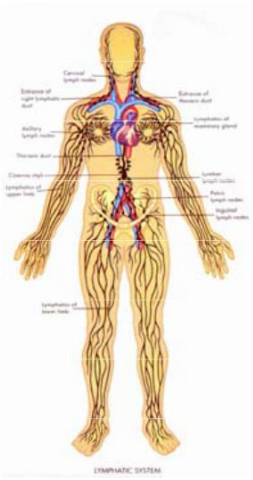
Name _____ Period _____ Date _____

THE HUMAN BODY SYSTEMS

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Digestive	1. take in food (ingestion) 2. digest food into smaller molecules and absorb nutrients 3. remove undigestable food from body (feces)		Mouth, esophagus, stomach, Sm. Intestine, Lg. intestine, rectum, anus Salivary glands, pancreas, liver, gall bladder	1. w/circulatory – absorb & deliver the digested nutrients to the cells 2. w/muscular – control the contractions of many of the digestive organs to pass food along 3.w/nervous – hypothalamus maintains homeostasis by triggering appetite (stomach growling), digest.
Circulatory	Transport materials to and from cells		Heart Veins Arteries Capillaries Red blood cells	1. w/respiratory – deliver O_2 from lungs to cells and drop off CO_2 from cells to lungs 2. w/digestive – absorb and deliver digested nutrients to cells 3. w/excretory – kidneys filter cellular waste out of blood for removal 4. w/lymphatic – both transport things to and from cells 5. w/immune – transports WBCs throughout body to fight disease 6. w/nervous – brain controls heartbeat 7. w/endocrine – trans. hormones
Nervous	1. gathers and interprets information 2. responds to information 3. helps maintain homeostasis		Brain Spinal cord Nerves Nerve cells = neurons hypothalamus	Controls all other systems Hypothalamus – maintains homeostasis by working with all systems

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Excretory	1. removes waste products from cellular metabolism (urea, water, CO_2) 2. filters blood		Kidneys Ureters Bladder Urethra Lungs Skin – sweat glands Liver (produces urea)	1. w/circulatory – filters waste out of blood 2. w/lungs – removes excretory waste 3. w/integumentary – removes excretory waste
Respiratory	Takes in oxygen and removes carbon dioxide and water		Nose Trachea Bronchi Bronchioles Alveoli lungs	1. w/circulatory – takes in O_2 for delivery to cells and removes CO_2 brought from cells 2. w/excretory – removes excretory waste 3. w/nervous – controls breathing 4. w/muscular – diaphragm controls breathing
Skeletal	1. protects organs 2. provides shape, support 3. stores materials (fats, minerals) 4. produces blood cells 5. allows movement		Bones Cartilage ligaments	1. w/muscular – allow movement 2. w/circulatory – produce blood cells 3. w/immune – produce white blood cells 4. w/circulatory and respiratory – protects it's organs

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Muscular	Allows for movement by contracting		Cardiac muscle Smooth muscle Skeletal muscle tendons	1. w/skeletal – allow movement 2. w/digestive – allow organs to contract to push food through 3. w/respiratory – diaphragm controls breathing 4. w/circulatory – controls pumping of blood (heart) 5. w/nervous – controls all muscle contractions
Endocrine	Regulates body activities using hormones. Slow response, long lasting		Glands *Hypothalamus *Pituitary *Thyroid *Thymus *Adrenal *Pancreas *Ovaries *Testes Glands produce Hormones	1. w/circulatory – transports hormones to target organs 2. w/nervous – maintain homeostasis, hormone release 3. w/reproductive – controlled by hormones 4. w/skeletal – controls growth of bones
Immune	Fights off foreign invaders in the body		White Blood Cells *T cells *B cells -produce antibodies *Macrophages Skin	1. w/circulatory – transports WBCs to fight invaders 2. w/lymphatic – has lots of WBCs to fight invaders, spleen filters bacteria/viruses out of blood 3. w/skeletal – WBCs made in bone marrow 4. w/integumentary – prevents invaders from getting in

System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
Integumen-tary	1. barrier against Infection (1st line of defense) 2. helps regulate body temp. 3. removes excretory waste (urea, water) 4. protects against sun's UV rays 5. produces vitamin D		SKIN *Epidermis *Dermis - sweat gland - sebaceous gland (oil) - hair follicle - blood vessels - nerves	1. w/excretory – removes cellular waste 2. w/nervous – controls body temperature (sweating, goose bumps) 3. w/immune – prevents pathogens from entering
Lymphatic	1. stores and carries WBC's that fight disease 2. collects excess fluid and returns it to blood (2nd circulatory system-reaches places other one can't – between cells)		Lymph (liquid part of blood – plasma, when it's in lymph vessels) Lymph Vessels Lymph Nodes Contain WBCs	1. w/immune – holds lots of WBCs to fight pathogens 2. w/circulatory – to transport materials to and from cells