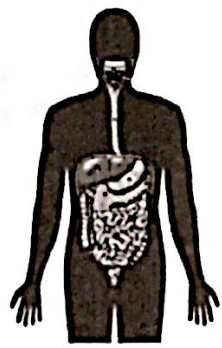
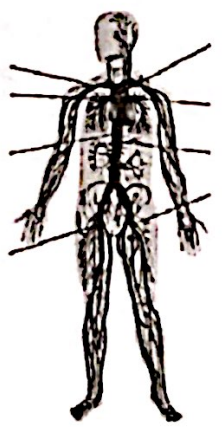

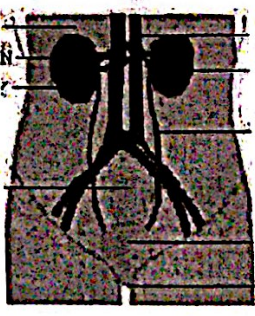
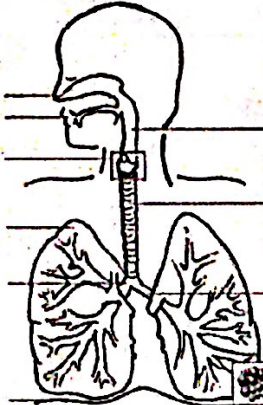




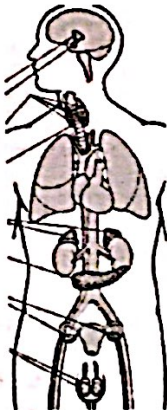
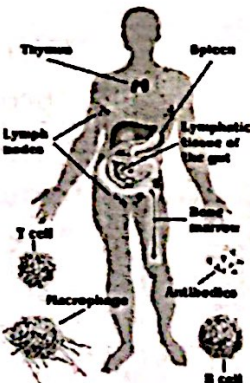
## THE HUMAN BODY SYSTEMS


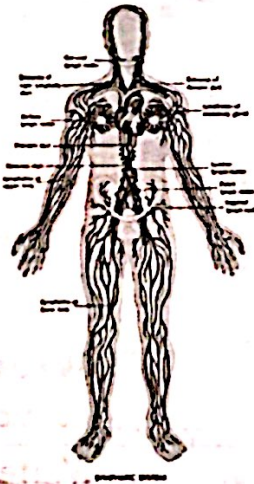
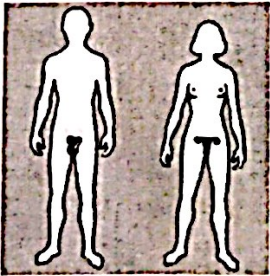
System	Function	Diagram	Major Organs	Interactions- Working with Other Systems
<b>Digestive</b>	<ol style="list-style-type: none"> <li>1. take in food (ingestion)</li> <li>2. digest food into smaller molecules and absorb nutrients</li> <li>3. remove undigestible food from body (feces)</li> </ol>		<p style="text-align: 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>
<b>Circulatory</b>	Transport materials to and from cells		<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>
<b>Nervous</b>	<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>Nerves Nerve cells = neurons</p> <p>hypothalamus</p>	<p style="text-align: center;">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>removes waste products from cellular metabolism (urea, water, CO<sub>2</sub>)</li> <li>filters blood</li> </ol>		Kidneys Ureters Bladder Urethra  Lungs Skin - sweat glands Liver (produces urea)	<ol style="list-style-type: none"> <li>w/circulatory - filters waste out of blood</li> <li>w/lungs - removes excretory waste</li> <li>w/integumentary - removes excretory waste</li> </ol>
Respiratory	Takes in oxygen and removes carbon dioxide and water		Nose Trachea Bronchi Bronchioles Alveoli lungs	<ol style="list-style-type: none"> <li>w/circulatory - takes in O<sub>2</sub> for delivery to cells and removes CO<sub>2</sub> brought from cells</li> <li>w/excretory - removes excretory waste</li> <li>w/nervous - controls breathing</li> <li>w/muscular - diaphragm controls breathing</li> </ol>
Skeletal	<ol style="list-style-type: none"> <li>protects organs</li> <li>provides shape, support</li> <li>stores materials (fats, minerals)</li> <li>produces blood cells</li> <li>allows movement</li> </ol>		Bones Cartilage ligaments	<ol style="list-style-type: none"> <li>w/muscular - allow movement</li> <li>w/circulatory - produce blood cells</li> <li>w/immune - produce white blood cells</li> <li>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>

<p><b>Integumentary</b></p>	<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><b>SKIN</b></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>
<p><b>Lymphatic</b></p>	<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>
<p><b>Reproductive</b></p>	<p>Allows organisms to reproduce which prevents their species from becoming extinct.</p>		<p><b>Ovaries</b></p> <ul style="list-style-type: none"> <li>*produce eggs</li> </ul> <p><b>Testes</b></p> <ul style="list-style-type: none"> <li>*produce sperm</li> </ul>	<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>

Name the organ system where the body part belongs. Write the beginning letter of the correct organ system on the blank.

M	muscular	D	digestive	C	circulatory
S	skeletal	R	respiratory	N	nervous
U	urinary				

- |           |         |           |                         |
|-----------|---------|-----------|-------------------------|
| _____ 1.  | rib     | _____ 11. | large & small intestine |
| _____ 2.  | bladder | _____ 12. | ureters                 |
| _____ 3.  | brain   | _____ 13. | anus                    |
| _____ 4.  | muscles | _____ 14. | spinal cord             |
| _____ 5.  | nerves  | _____ 15. | stomach                 |
| _____ 6.  | skull   | _____ 16. | blood vessels           |
| _____ 7.  | heart   | _____ 17. | mouth                   |
| _____ 8.  | kidneys | _____ 18. | backbone                |
| _____ 9.  | gullet  | _____ 19. | windpipe                |
| _____ 10. | lungs   | _____ 20. | nose                    |



Indicate which organ system will be primarily used in the following situation. Write the beginning letter of correct organ system on the blank.

M	muscular	D	digestive	C	circulatory
S	skeletal	R	respiratory	N	nervous
U	urinary				

- \_\_\_\_\_ 1. Prepare for a 5km run and eat lots of carbohydrates like rice to give you more energy.
- \_\_\_\_\_ 2. You lift your feet and move your legs as fast as you can.
- \_\_\_\_\_ 3. But you have to go to the bathroom because you drank too much water before the run.
- \_\_\_\_\_ 4. Your breathing is getting faster and faster.
- \_\_\_\_\_ 5. Ouch! You accidentally tripped and scraped your knee.
- \_\_\_\_\_ 6. Good thing you have strong bones to protect you.
- \_\_\_\_\_ 7. The heart is pumping fast as you sprint for the final 1km.

Congratulations! You have won the race!

Name: \_\_\_\_\_

Date: \_\_\_\_\_

Match column A with column B. Write the letter of the correct match on the blank. Use CAPITAL letter.

- |          |                    |    |   |
|----------|--------------------|----|---|
| _____ 1. | digestive system   | A. | removes extra water and waste materials from our body               |
| _____ 2. | skeletal system    | B. | allows us to move different parts of our body                       |
| _____ 3. | respiratory system | C. | protects the delicate organs in our body                            |
| _____ 4. | circulatory system | D. | takes air into and removes air out of our body                      |
| _____ 5. | nervous system     | E. | breaks down food into substances our body can use                   |
| _____ 6. | muscular system    | F. | made up of parts that help move substances to all parts of our body |
| _____ 7. | urinary system     | G. | the control center of our body                                      |

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**Name one major function of the organ systems listed below.**

1. **Skeletal System**

\_\_\_\_\_

2. **Muscular System**

\_\_\_\_\_

3. **Digestive System**

\_\_\_\_\_

4. **Respiratory System**

\_\_\_\_\_

5. **Circulatory System**

\_\_\_\_\_

6. **Nervous System**

\_\_\_\_\_

7. **Urinary System**

\_\_\_\_\_



Write the letter of the correct answer.

- \_\_\_\_\_ 1. Passage by which food goes from mouth to stomach
- a. mouth  
b. gullet  
c. large intestine  
d. small intestine
- \_\_\_\_\_ 2. Digests and absorbs food
- a. mouth  
b. gullet  
c. large intestine  
d. small intestine
- \_\_\_\_\_ 3. Absorbs water from remaining indigestible food matter and pass useless waste material from the body.
- a. mouth  
b. gullet  
c. large intestine  
d. small intestine
- \_\_\_\_\_ 4. Part of the urinary system that removes waste products from the blood and secrete urine.
- a. kidney  
b. urethra  
c. ureters  
d. bladder
- \_\_\_\_\_ 5. Duct/tube from kidney to bladder.
- a. kidney  
b. urethra  
c. ureters  
d. bladder
- \_\_\_\_\_ 6. Sac in which urine collects in the body.
- a. kidney  
b. urethra  
c. ureters  
d. bladder
- \_\_\_\_\_ 7. Duct by which urine is discharged.
- a. kidney  
b. urethra  
c. ureters  
d. bladder
- \_\_\_\_\_ 8. This part of our body let's our brain know activities inside and outside our body.
- a. blood vessels  
b. brain  
c. nerves  
d. spinal cord