

# Travel Brochure of the Body System

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

Your team at the (create a name for your ad agency) has been hired as a travel consultant to design a luxury tour through one of the Human Body Systems. Before you can collect your fee from the Holistic Body Tour, you must produce a brochure.

The owner of the travel bureau, Ms. Image, has informed you that in order to win the contract you must highlight the trendy spots, the exciting activities, and the imports and exports of the areas. For insurance considerations, you must also discreetly mention any possible dangers or special precautions that tourists might encounter in visiting this system.

Your world body tour should include visits to one of the following systems:

**Digestive**

**Respiratory**

**Skeletal**

**Muscle**

**Nervous**

**Excretory**

**Circulatory**

**Immune**



# MOST\*

## MATERIALS NEEDED

Information sheet on selected system

Magazines

Poster of plain paper

Colored pencils

Colored markers

Scissors

Glue

Resource materials/computer time for research

## Students should be able to:

Answer all the questions and define all the terms for their selected human body system.

Organize the information into an informative brochure.

Present the information orally in front of a peer group organizes the results.

## Inside This Packet

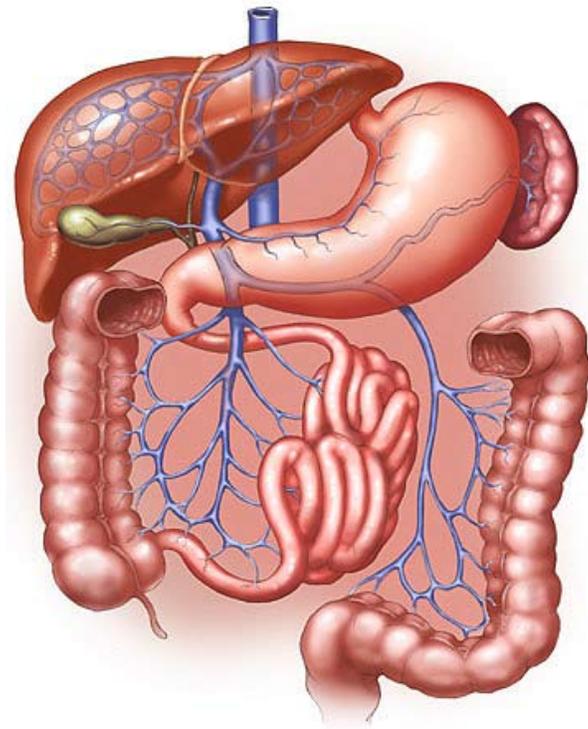
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# Digestive System



## OBJECTIVES

1. List the parts of the digestive system and give their functions.
2. Compare mechanical digestion to chemical digestion.
3. Explain the function of the digestive enzymes amylase, protease and lipase.
4. Explain the results of the chemical digestion of carbohydrates, proteins and fats and discuss if this digestion occurs in the mouth, stomach and/or small intestines.
5. Discuss the importance of the liver and pancreas in digestion. List the substances they produce and explain their function.
6. Describe the structure of the villi and explain how its function is related to its structure.



## VOCABULARY

(to be included in pamphlet)

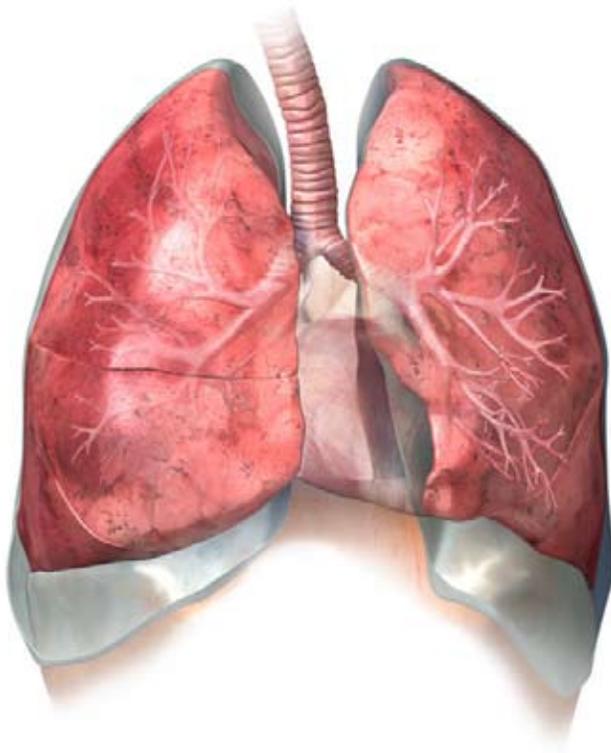
acidic pH  
alimentary canal  
amylase  
bile  
digestion  
duodenum  
E. coli  
epiglottis  
essential amino acids  
esophagus  
feces  
gall bladder  
hydrochloric acid  
large intestines  
lipase  
liver  
mesentery  
mucous  
neutral pH  
pancreas  
pepsin  
peristalsis  
pyloric sphincter valve  
rectum  
salivary glands  
small intestines  
stomach  
villi

# Respiratory System



## OBJECTIVES

1. Identify the structure and function of the parts of the respiratory system.
2. Explain the function of the ribs and diaphragm in the breathing process.
3. Explain how breathing rate is controlled.
4. Describe what happens between the alveoli and the capillaries.



## VOCABULARY

(to be included in pamphlet)

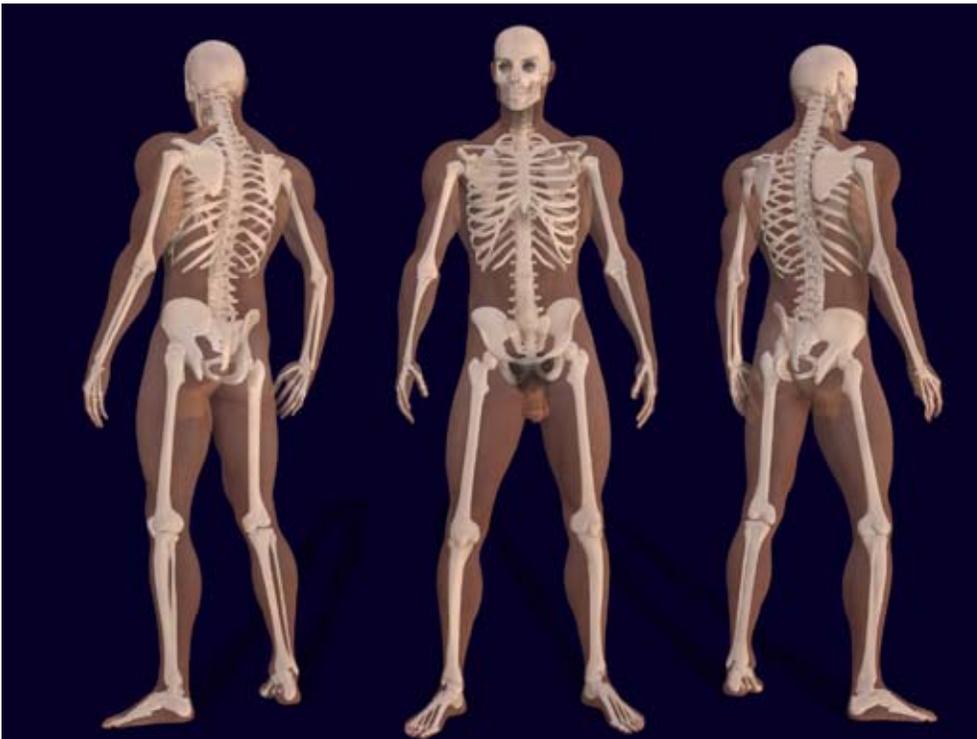
alveoli  
anaerobic respiration  
bronchi  
bronchiole  
cilia  
CPR  
diaphragm  
epiglottis  
exhalation  
gas exchange  
inhalation  
larynx  
lung  
oxygen debt  
pharynx  
pleural membrane  
respiration  
respiratory control center  
trachea  
vital capacity

# Skeletal System



## OBJECTIVES

1. Identify twenty major bones in the body.
2. State the functions of the skeletal system.
3. Describe the composition of bone.
4. Explain the differences in structure and function between the 4 major kinds of moveable joints: ball and socket, hinge, pivot, gliding
5. Discuss some injuries or disorders of the skeletal system.



## VOCABULARY

(to be included in pamphlet)

appendicular skeleton

arthritis

axial skeleton

bursa

cartilage

endoskeleton

fontanels

Haversian canals

joints

ligaments

marrow

ossification

osteology

periosteum

synovial fluid

tendons

# Muscle System



## OBJECTIVES

1. Compare the structure and function of three types of muscles and give examples of where these muscles would be found in the body.
2. Explain the mechanism of muscle contractions.
3. Explain the function of flexors and extensors.
4. Explain how muscles fatigue.
5. Explain how muscles, bones, and tendons are related.
6. Explain the 'all or none' response.
7. Identify 10 major muscles of the body.



## VOCABULARY

(to be included in pamphlet)

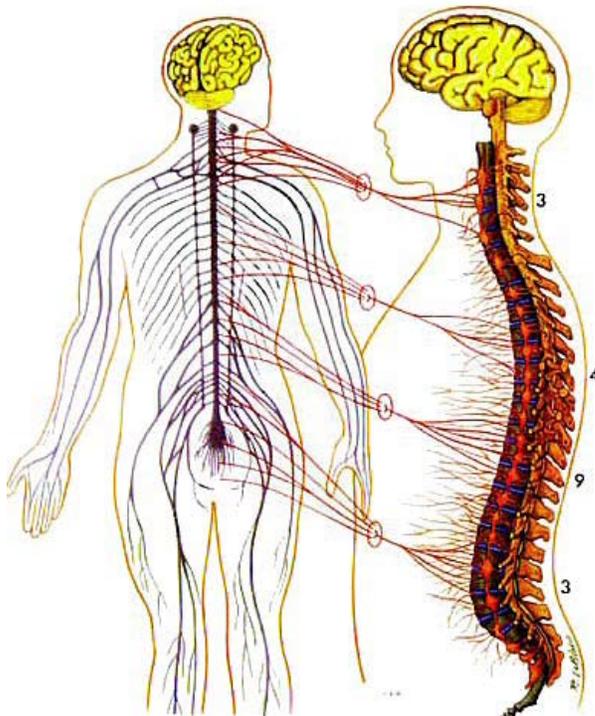
acetylcholine  
actin  
belly  
cardiac muscle  
cholinesterase  
extensor  
fatigue  
flexor  
ligament  
muscle fiber  
myofibril  
myology  
myosin  
skeletal muscle  
smooth muscle  
tendon

# Nervous System



## OBJECTIVES

1. Describe the basic structure and function of the nervous system.
2. Diagram the structure of a neuron and explain how it operates.
3. List the parts and discuss the function of the Central Nervous System (CNS). Discuss the structure and control centers of the brain.
4. Describe the Peripheral Nervous System (PNS), including the Autonomic branch (involuntary) and the Somatic branch (voluntary). In your discussion of the Autonomic system, distinguish between the Sympathetic branch and the Parasympathetic branch.
5. Explain how a nerve impulse travels
6. Explain/Diagram what occurs during the reflex arc.



## VOCABULARY

(to be included in pamphlet)

acetylcholine  
action potential  
Autonomic Nervous System  
axon  
brain  
cell body  
Central Nervous System  
cerebellum  
cerebrum  
dendrite  
ganglia  
medulla oblongata  
mixed nerve  
motor nerve  
nerve impulse  
neuron  
neurotransmitter  
Parasympathetic Nervous System  
Peripheral Nervous System  
reflex  
response  
resting potential  
sensory nerve  
sodium-potassium pump  
spinal cord  
stimulus  
Sympathetic Nervous System  
synapse

# Excretory System



## OBJECTIVES

1. Define excretion.
2. Describe the function of the skin, kidneys, lungs and liver in the excretory process.
3. Describe the structure and function of the kidney and its parts.
4. Explain how the nephron functions.
5. Explain the difference between filtration and reabsorption.

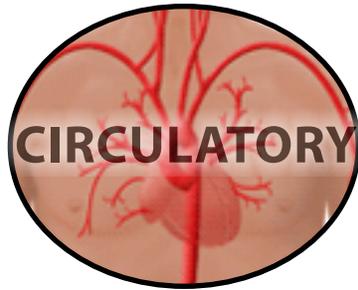


## VOCABULARY

(to be included in pamphlet)

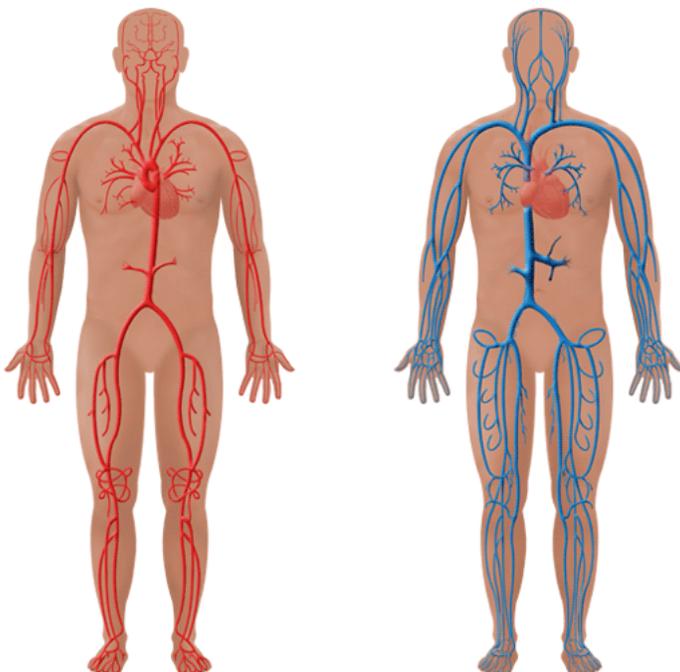
aorta  
active transport  
adrenal glands  
bladder  
Bowman's capsule  
excretion  
filtration  
glomerulus  
kidney  
metabolic wastes  
nephron  
reabsorption  
renal artery  
renal vein  
sweat glands  
ureter  
urethra  
urine

# Circulatory System



## OBJECTIVES

1. List the functions of the human circulatory system.
2. Trace a drop of blood through the heart from right atrium to the aorta.
3. Locate and label the parts of a heart on a diagram.
4. Compare the blood on the right side of the heart with that on the left side.
5. Describe the components of blood. (red blood cells, white b.c., platelets and plasma)
6. Identify and describe the function of the different types of circulation: pulmonary and systemic circuits.
7. Explain how the heart beats.
8. Explain what is meant by blood pressure.
9. Explain how blood is produced in the body. Describe the role of the spleen and marrow.
10. Discuss diseases of the heart. (hypertension and atherosclerosis)



## VOCABULARY

(to be included in pamphlet)

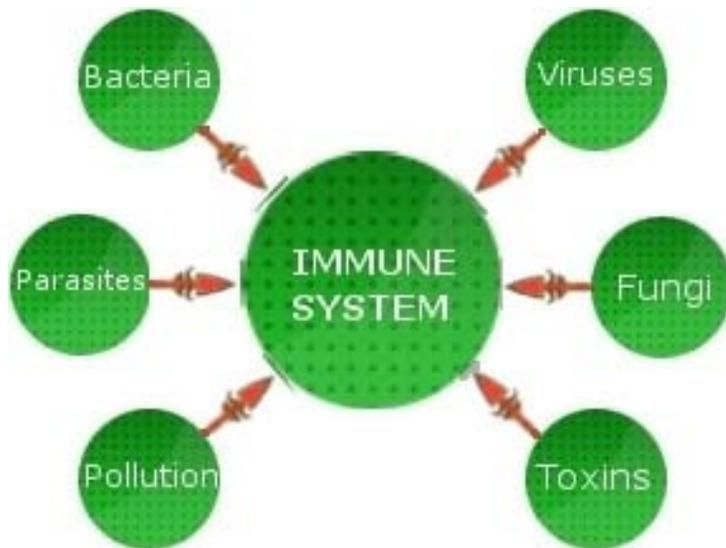
aorta  
artery  
arteriole  
atrium  
blood transfusion  
capillary  
circulatory system  
coronary circulation  
deoxygenated blood  
diastole  
hemoglobin  
lymph  
pacemaker  
plasma  
platelets  
pulmonary circulation  
red blood cells  
Rh factor  
sphygmomanometer  
systemic circulation  
systole  
valve  
vein  
vena cava  
ventricle  
venule  
white blood cells

# Immune System



## OBJECTIVES

1. Describe the function of the immune system.
2. Explain how the skin functions as a defense against disease.
3. Distinguish between a specific and nonspecific response.
4. Describe the actions of B cells and T cells in an immune response.
5. Describe the relationship between vaccination and immunity.
6. Describe what happens in an allergic response.
7. Describe at least one immune disorders.
8. Explain (diagram) the antigen-antibody reaction.



## VOCABULARY

(to be included in pamphlet)

antigen  
antibiotic  
antibody  
B-cell  
bone marrow  
immune response  
immunology  
inflammatory response  
lymphocyte  
leukocyte  
macrophage  
T-cell  
thymus gland  
vaccine

# Travel Brochure of the Body System Rubric

**Agency Name:** \_\_\_\_\_

**People in Agency group:** \_\_\_\_\_  
 \_\_\_\_\_

## Four Point Assessment

1 = the element described is missing.

2 = the element is present, but does not meet the standard described.

3 = the element is present and meets standard, but needs revision or improvement.

4 = the element is present and meets or exceeds the standard and no revision is recommended.

Content 50%					
Information presented is accurate, factual, and relevant to the specific topic.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	_____
Research is in-depth and covers all systems and required topic areas.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	_____
Time, energy, effort, enthusiasm and group commitment to the project are evident.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	_____
Project shows mastery of structure and function of human systems.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	_____
Interrelationships between systems are clearly depicted and explained.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	_____
Travel Brochure 30%					
Travel brochure is neat and shows thought and effort.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	_____
Travel brochure clearly illustrates all structures, functions, and risks associated with travel to selected system.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	_____
Travel brochure exhibits creativity.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	_____
Oral Presentation 30%					
Presentation is smooth and shows evidence of preparation.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	_____
Peer and Self Evaluation 10%					
Evaluations show thought and effort.	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	_____
<b>Total Points:</b>					_____

<b>Grading:</b>					
A = 37 - 40	B <sup>+</sup> = 36	B = 33 - 35	C <sup>+</sup> = 32		
C = 29 - 32	D <sup>+</sup> = 28	D = 25 - 27	F <sup>&lt;</sup> = 24		

# Student Peer Assessment

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Name \_\_\_\_\_ Date \_\_\_\_\_

Presenting students' names: \_\_\_\_\_

\_\_\_\_\_

Title of selected system: \_\_\_\_\_

Rate on a scale of 1 to 4 with 4 being the best:

\_\_\_\_\_ Completed sharing about all the listed information on the criteria sheets.

\_\_\_\_\_ Both students were involved and engaged in the presentation

\_\_\_\_\_ Clarity and Presentation of oral information

\_\_\_\_\_ Provided brochure and visuals to support content

\_\_\_\_\_ Able to handle questions about topic

## Information for the Teacher

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Divide up the class so that at least one team prepares information on each of the eight body systems.

Each team should listen to another team's presentation that is different from their own selected body systems.

Prepare brochure copies of all the body systems as notes for the class.

Hold a class discussion to answer any questions about vocabulary terms or concepts outlined for each of the systems.

You can choose to provide one or two grades for this exercise. The peer assessment is optional but may assist with keeping the oral presentations focused.

### New York State Standards

#### High School Living Environment

**Standard 4:** Key idea 1: 1.2a, 1.2b, 1.2c, 1.2d, 1.2e