

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

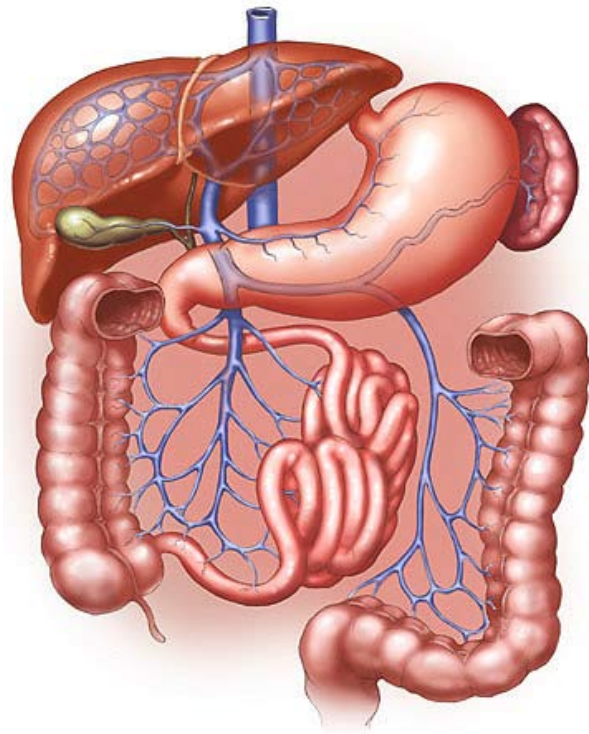
Activity: Travel Brochure of the Body Systems Intro	1
The Digestive System	2
The Respiratory System	3
The Skeletal System	4
The Muscle System	5
The Nervous System	6
The Excretory System	7
The Circulatory System	8
The Immune System	9
Grading Rubric	10
Peer Assessment Sheet	11
Information for the Teacher	12

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)

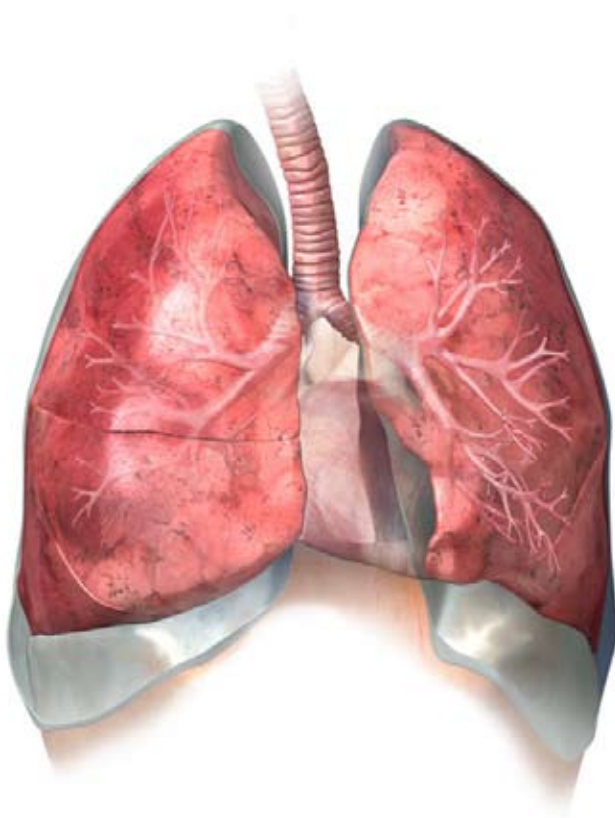
acidic pH
alimentary canal
amylase
bile
digestion
duodenum
E. coli
epiglottis
essential amino acids
esophagus
feces
gall bladder
hydrochloric acid
large intestines
lipase
liver
mesentery
mucous
neutral pH
pancreas
pepsin
peristalsis
pyloric sphincter valve
rectum
salivary glands
small intestines
stomach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

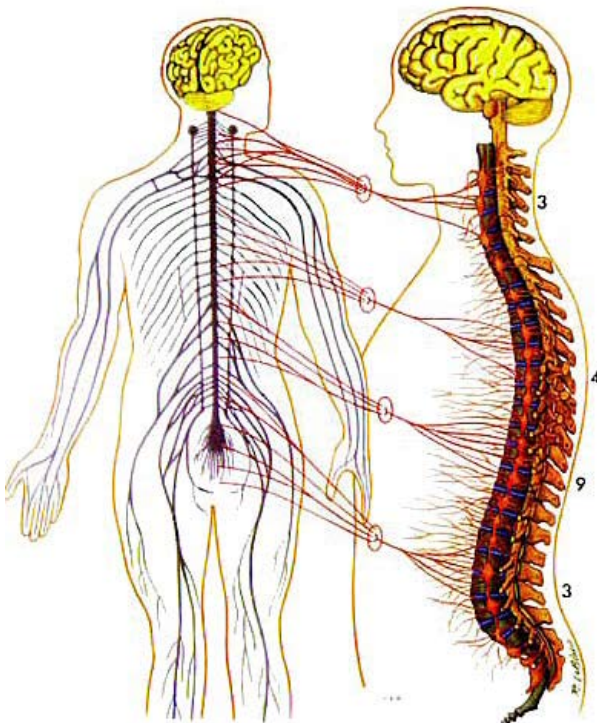
acetylcholine
actin
belly
cardiac muscle
cholinesterase
extensor
fatigue
flexor
ligament
muscle fiber
myofibril
myology
myosin
skeletal muscle
smooth muscle
tendon

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.

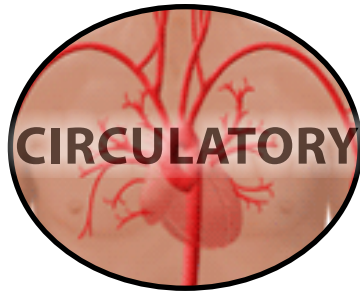


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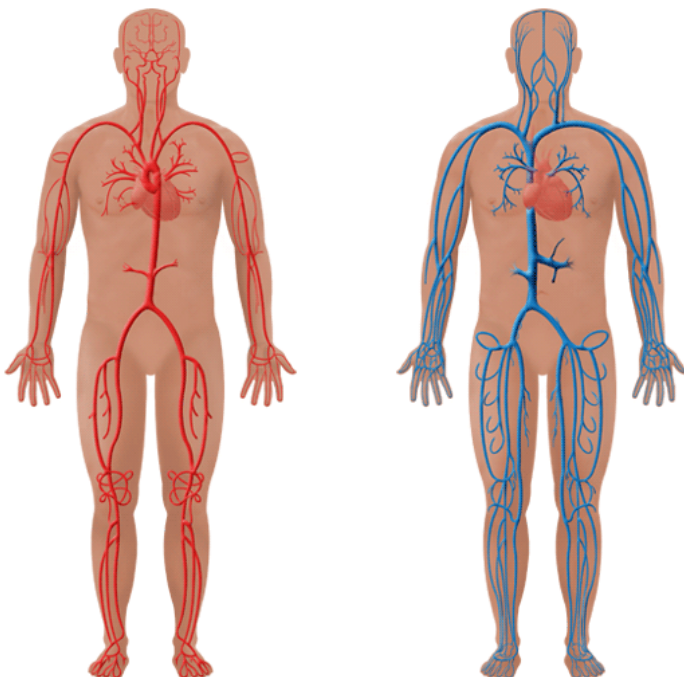
aorta
active transport
adrenal glands
bladder
Bowman's capsule
excretion
filtration
glomerulus
kidney
metabolic wastes
nephron
reabsorption
renal artery
renal vein
sweat glands
ureter
urethra
urine

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)

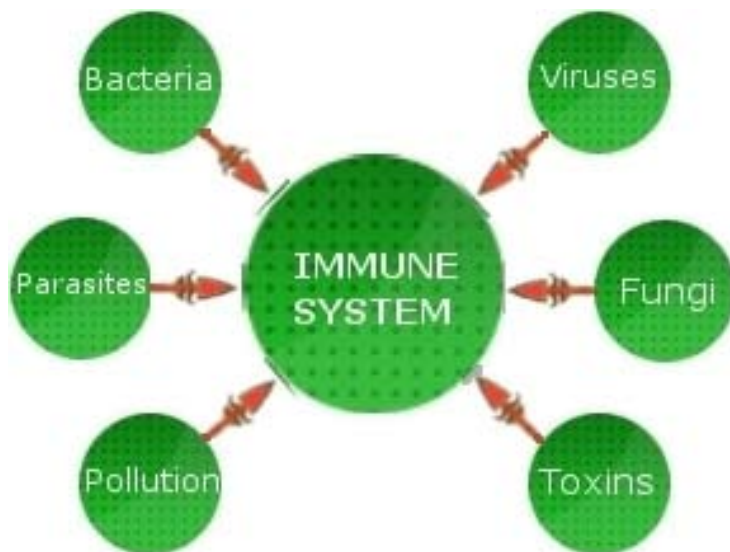
aorta
artery
arteriole
atrium
blood transfusion
capillary
circulatory system
coronary circulation
deoxygenated blood
diastole
hemoglobin
lymph
pacemaker
plasma
platelets
pulmonary circulation
red blood cells
Rh factor
sphygmomanometer
systemic circulation
systole
valve
vein
vena cava
ventricle
venule
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 disorder.
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.	1	2	3	4	_____
Research is in-depth and covers all systems and required topic areas.	1	2	3	4	_____
Time, energy, effort, enthusiasm and group commitment to the project are evident.	1	2	3	4	_____
Project shows mastery of structure and function of human systems.	1	2	3	4	_____
Interrelationships between systems are clearly depicted and explained.	1	2	3	4	_____
Travel Brochure 30%					
Travel brochure is neat and shows thought and effort.	1	2	3	4	_____
Travel brochure clearly illustrates all structures, functions, and risks associated with travel to selected system.	1	2	3	4	_____
Travel brochure exhibits creativity.	1	2	3	4	_____
Oral Presentation 30%					
Presentation is smooth and shows evidence of preparation.	1	2	3	4	_____
Peer and Self Evaluation 10%					
Evaluations show thought and effort.	1	2	3	4	_____
Total Points:					_____

Grading:

A = 37 - 40 B⁺ = 36 B = 33 - 35 C⁺ = 32

C = 29 - 32 D⁺ = 28 D = 25 - 27 F < = 24

Student Peer Assessment

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

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