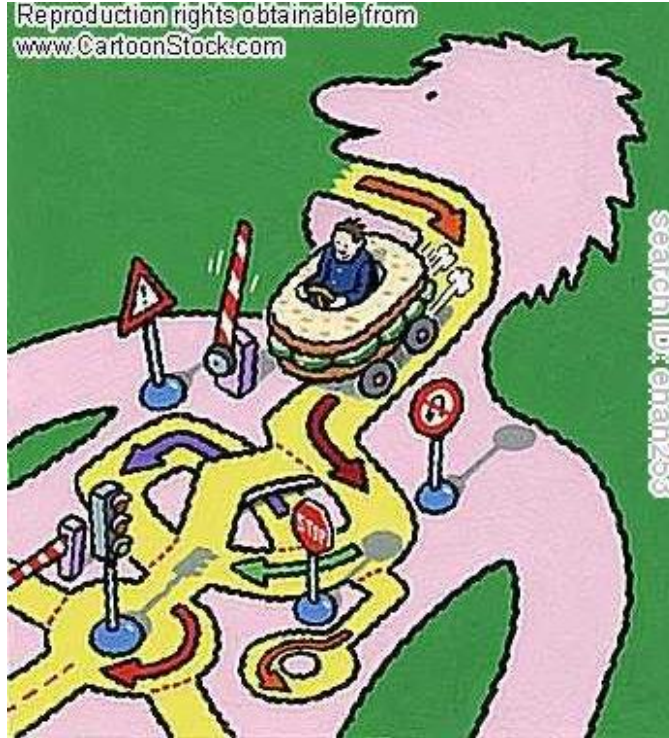


HOMEOSTASIS & IMMUNITY

Week Two Packet



Packet Grade:

___/___ **9** Completed notes

___/___ **30** Completed Classwork

___/___ **30** Completed Homework

___/___ **10** Packet turned in on time

___/___ **1** Name and Class are filled in

___/___ **80** Total Grade

INVESTIGATOR: _____

LESSON 2.4

Objective:

SWBAT identify the general function and major organs of the nervous system and the endocrine system.

AIM: How does my body send messages and how to the organ systems communicate.

Do Now:

CLASS WORK 2.4

The \$1,000,000 question: If you had to choose between your nervous system and your endocrine system, which one would you keep? List the advantages of each for all of the categories below. Then, be sure to select your final answer.

	Nervous System	Endocrine System
Anatomy: aka what structures are part of this system		
Function: job		
Speed: how fast does the message get there		
Length of communication: how long does the message last		
Complication #1		
Complication #2		

FINAL ANSWER? _____

LESSON 2.4 CONTINUED

Objective:

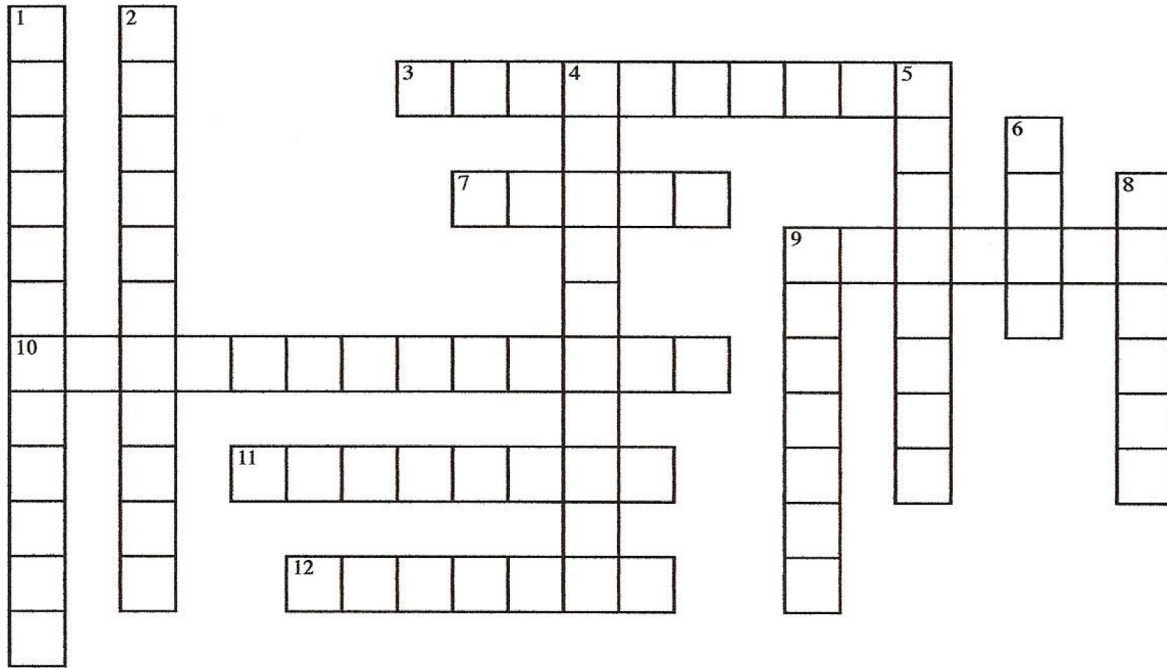
SWBAT identify the general function and major organs of the muscular, skeletal, and integumentary system.

AIM: What holds our bodies together?

Do Now:

CLASS WORK 2.4 CONTINUED

Skin, Muscle and Bones



ACROSS

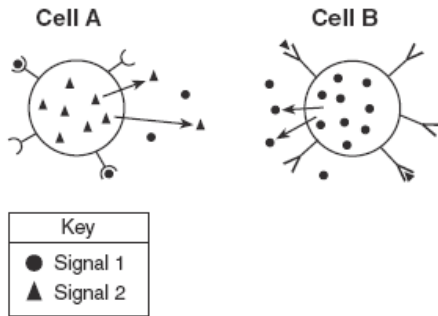
- 3 A mineral stored in our bones
- 7 Type of skeleton that contains the skull, cerebral column, sternum, ribs
- 9 Maintains Strong Bones
- 10 The skin
- 11 To tighten or get shorter
- 12 Type of receptor that helps to feel pain, pressure and temperature

DOWN

- 1 Type of skeleton that contains the upper and lower limbs
- 2 Equilibrium or balance
- 4 Caused by too much sun
- 5 Type of muscle that is attached to our bones and helps our bodies move
- 6 The largest organ
- 8 Type of muscle found in the digestive track
- 9 Type of muscle found in the heart

HOMEWORK 2.4

1. Cellular communication is illustrated in the diagram below.



Information can be sent from

- (1) Cell A to cell B because cell B is able to recognize signal 1
- (2) Cell A to cell B because cell A is able to recognize signal 2
- (3) Cell B to cell A because cell A is able to recognize signal 1
- (4) Cell B to cell A because cell B is able to recognize signal 2

2. After a hormone enters the bloodstream, it is transported throughout the body, but the hormone affects only certain cells. The reason only certain cells are affected is that the membranes of these cells have specific

- (1) Receptors
- (2) Antibodies
- (3) Tissues
- (4) Carbohydrates

3. A characteristic of hormones and enzymes that allow them to work effectively with other organic molecules is their:

- (1) Small size
- (2) High-energy bonds
- (3) Specific shape
- (4) Concentrations of CO₂ and hydrogen

4. The pancreas produces one hormone that lowers blood sugar and another that increases blood sugar. The interactions of these two hormones most directly help humans to:

- (1) Maintain a balanced internal environment
- (2) Digest needed substances for other body organs
- (3) Dispose of waste formed in other body organs
- (4) Increase the rate of cellular communication

5. Draw an example of a hormone and its receptor below:



HOMEWORK 2.4 CONTINUED

Match the following organ systems with their function in the body.

_____ Nervous System	A. Helps to move your bones
_____ Digestive System	B. Transports nutrients throughout the body
_____ Endocrine System	C. Provides support for the body and protects vital organs
_____ Integumentary System	D. Hair, skin, and nails protect the tissue underneath
_____ Urinary System	E. Protects the body from germs
_____ Skeletal System	F. Breaks down food into nutrients that can be absorbed by the body
_____ Respiratory System	G. Allows humans to reproduce
_____ Reproductive System	H. Allows you to breathe in oxygen and release carbon dioxide
_____ Circulatory System	I. Regulates chemical messengers (hormones) in the body
_____ Muscular System	J. Sends electrical signals throughout the body
_____ Lymphatic System	K. Removes wastes from the blood

Choose three of the above systems and describe how they work together to maintain homeostasis.

HOMEWORK 2.5

1. Organisms undergo constant chemical changes as they maintain an internal balance known as

- a) Interdependence
- b) Synthesis
- c) Homeostasis
- d) Recombination

2. If an organism fails to maintain homeostasis, the result may be

- a) Disease only
- b) Death only
- c) Disease or death
- d) None of the above

3. A change in the body results in another change. This second change reverses the first change in order to maintain homeostasis. This describes a type of

- a) Control mechanism
- b) Feedback controller
- c) Feedback mechanism
- d) Effector mechanism

4. Why might a blood clot be important to maintaining homeostasis?

- a) It slows the flow of blood through the body
- b) It prevents the loss of blood from the body
- c) It increases the amount of water in the blood
- d) It adds more cells to the blood tissue

5. Feedback interactions in the human body are important because they

- a) Determine the diversity necessary for evolution to occur
- b) Direct the synthesis of altered genes that are passed on to every cell in the body
- c) Regulate the shape of molecules involved in cellular communication
- d) Keep the internal body environment within its normal range

6. Which homeostatic adjustment does the human body make in response to an increase in environmental temperatures?

- a) A decrease in glucose levels
- b) An increase in perspiration
- c) A decrease in fat storage
- d) An increase in urine production

7. The most immediate response to a high level of blood sugar in a human is an increase in the

- a) Muscle activity in the arms
- b) Blood flow to the digestive tract
- c) Activity of all cell organelles
- d) Release of insulin

8. Maintenance of the pH of human blood within a certain range is an example of

- a) Chemical digestion
- b) Synthesis
- c) Respiration
- d) Dynamic equilibrium

9. A student is frightened by a loud noise, which results in a hormone being released into the blood. The hormone causes the student's heart to beat rapidly. The two systems that work together to cause this reaction are the endocrine system that secretes the hormone and the

- a) Nervous system
- b) Reproductive system
- c) Excretory system
- d) Digestive system

10. During a race, the body temperature of a runner increases. The runner responds by perspiring, which lowers body temperature. This process is an example of

- a) Maintenance of homeostasis
- b) An antigen-antibody reaction
- c) An acquired characteristic
- d) Environmental factors affecting phenotype