

# Study Guide

## Chapter Test A

# The Musculoskeletal System and Levers

CHAPTER 9

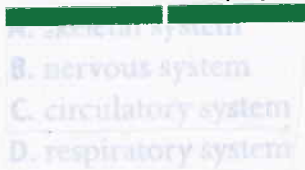
### Part A. Multiple Choice

Directions: Write the <sup>answer</sup> letter of the term that correctly answers each question in the space at the left.

\_\_\_\_\_ 1. Which term is given to a simple machine that pivots around a fixed point?



\_\_\_\_\_ 2. What is the body system that is responsible for support, protection, and movement?



\_\_\_\_\_ 3. What part of our bodies provides the force to move objects?



### Part B. Matching

Directions: Write the ~~letter of the~~ correct term on the line next to its description. Answers may be used only once.

#### Matching Set 1

- \_\_\_\_\_ 1. hard, supportive structure within the body
- \_\_\_\_\_ 2. hard tissue made mostly of cells, collagen, and calcium
- \_\_\_\_\_ 3. connects bone to muscle

A. skeletal system

B. bone

C. ligament

#### Matching Set 2

- \_\_\_\_\_ 4. the resistance force and the effort force are on opposite sides of the fulcrum
- \_\_\_\_\_ 5. push or pull on an object
- \_\_\_\_\_ 6. ability of a machine to increase the amount of force put into the machine

D. force

E. mechanical advantage

# Chapter Test **A** CONTINUED

## Part C. Completing a Table

**Directions:** How can a letter decrease the amount of force needed to do a task? The table below shows the mechanical advantage. Use the formula for work below to complete the table.

*Show all work*

$$MA = F_R / F_E$$

Mechanical Advantage	Resistance Force	Effort Force
1.	60 N	10 N
2.	50 N	10 N
3.	40 N	10 N
4.	30 N	10 N

5. Explain the pattern in the *resistance force* column.

\_\_\_\_\_

## Part D. Short Answer

**Directions:** Respond to each statement in the space provided.

1. List an example of a first-, second-, and third-class lever.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

2. Define mechanical advantage, and give an example.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Chapter Test **A** CONTINUED

## Part E. Concept Application

Directions: Respond to each question or statement in the space provided.

1. Explain how a hinge joint operates. Name an example <sup>in the body</sup>

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2. List two levers that you might find on a playground, and name the type of lever for each.

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3. Tell Give an example of a muscle contracting. (name an action of the muscle that contracts)

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4. Michelle is changing the tire on her car. What type of lever <sup>class</sup> could she use? Explain how it helps. (use the words: effort force, resistance force & class)

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# The Cardiopulmonary System and Pressure

CHAPTER 10

## Chapter Test A

### Part A. Multiple Choice

**Directions:** Write ~~the letter of the~~ term or phrase that correctly answers each question in the space at the left.

\_\_\_\_\_ 1. What is removed from the body when you exhale?

- A. air
- B. carbon dioxide
- C. carbon dioxide
- D. nitrogen oxide

\_\_\_\_\_ 2. What unit is used to measure air pressure in the lungs?

- A. liters
- B. joules
- C. Pascals
- D. millimeters of mercury

\_\_\_\_\_ 3. Which household item best describes a valve in the heart?

- A. hose
- B. door
- C. straw
- D. chair

### Part B. Matching

**Directions:** Write the ~~letter of the~~ correct term on the line next to its description.

#### Matching Set 1

- \_\_\_\_\_ 1. organ in which gas exchange occurs
- \_\_\_\_\_ 2. microscopic sacs at the end of the bronchioles
- \_\_\_\_\_ 3. process of air entering and exiting the body

#### Matching Set 2

- \_\_\_\_\_ 4. vessels that carry blood away from the heart
- \_\_\_\_\_ 5. vessels that carry blood back to the heart
- \_\_\_\_\_ 6. microscopic vessels where blood is exchanged between venules and arterioles

- A. lungs
- B. alveoli
- C. breathing
- D. arteries
- E. arterioles

# Chapter Test **A** CONTINUED

## Part C. Completing a Table

Directions: Use these terms to complete the table below: asthma, pneumonia, and suffocation.

Disease/Disorder	Description
1.	Thick fluid builds up in the lungs, interfering with oxygen exchange.
2.	Airways are swollen, often from an allergic reaction.
3.	Lungs do not receive enough oxygen. Can be caused by choking.

4. Select the best title for this table from the choices below.

- A. Genetic Problems
- B. Ways to Stay Healthy
- C. Disorders of the Pulmonary System
- D. Disorders of the Circulatory System

## Part D. Short Answer

Directions: Respond to each statement in the space provided.

1. Describe what happens during a stroke.

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2. List three ways to reduce your risk of a heart attack.

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# Chapter Test **A** CONTINUED

## Part E. Concept Application

**Directions:** Answer each question or respond to each statement in the space provided.

**E.C.** 1. **Infer** why a paramedic might raise the legs of a person who is in shock.

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2. **Explain** After a person donates blood, he or she is given liquids to drink. Why is drinking liquids helpful to the person who donated blood?

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3. **Deduce** Why do you think regular exercise is important to staying healthy?

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