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The Muscular System - Muscles

1. Match the word on the left to the definition on the right. You may use a dictionary to help.

bundled	A	This means slender pieces, like threads
cardiac	B	A group of things gathered close together are _____
involuntary	C	This is another word for striped.
striated	D	A word used to describe things related to the heart
fiber	E	Something that happens without thinking about it or choosing it to happen

2. The muscular system has two main jobs. Can you guess what they are? Think about how your body works and what you already know about muscles. Then underline your two guesses from the list below.

- muscles help us think faster
- muscles give our body shape
- muscles help us move
- muscles help us sleep better
- muscles give us better hearing

3. In the chart below list all the things your muscles have helped you to do today. Try to list at least ten different things.

Thanks, muscles! Without you I wouldn't have been able to do any of these things today!

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.



The Muscular System - Muscles

There are over 600 muscles in the human body. Together they make up the **muscular system**.

Just like your skeleton, your muscles are below the skin. This means that you can only see the outline of muscles and feel them change shape when they move. Try this - hold your arm up like a weightlifter and tighten your fist. Can you feel the muscles in your upper arm get bigger and harder? Doing this gives you a clue about the two main jobs of muscles:



1. Muscles give our body shape; 2. Muscles help us move. Muscles help us do almost everything - from running on the playground, to pulling the blankets up at night, to breathing in and out.

All muscles in the body are made of cells that are like elastic string. These cells are called **muscle fibers**. Muscle fibers are **bundled** together in groups to form muscles. The number and length of the fibers depend on the size of the muscle.

Three Types of Muscle

There are three types of muscle in the human body. The chart below tells you about them.

Muscle Type	What It Looks Like	How It Moves	What It Does
Skeletal	Striated (striped)	Voluntary (we can control the movement)	Attached to our bones, they allow the bones to move
Smooth	Smooth	Involuntary (we cannot control the movement)	Controls movement inside our body
Cardiac	Striated (striped)	Involuntary (we cannot control the movement)	Allows our heart to pump blood

What surprising thing have you learned about muscles? Why were you surprised?

STOP



The Muscular System - Muscles

1. Circle **T** if the statement is TRUE or **F** if it is FALSE.

- T F** a) The human body has over 1000 muscles.
- T F** b) Muscles help us move.
- T F** c) Cardiac muscle is voluntary muscle.
- T F** d) Every human muscle is made of one large muscle fiber.
- T F** e) If something is "involuntary" it means we cannot control it.
- T F** f) The human body has three important muscles on top of the skin.
- T F** g) Muscles give our body shape.
- T F** h) Striated muscles look like stripes.
- T F** i) Cardiac muscles are involuntary muscles that help pump our blood.

2. Fill in each blank with a word from the list. There will be two words left over.

- bundled shape three cells run two fibers**
breathe move elastic muscles

Muscles have _____ main jobs. They give our body _____ and help us to _____. Without muscles we couldn't _____ or _____. All muscles are made of _____ like _____ string. These are called muscle _____. These fibers are _____ together to create muscles.



The Muscular System - Muscles

3. What are two ways muscles help us?

4. What do skeletal and cardiac muscles look like?

5. What muscle do you think is the most important and why do you think so?

Extension and Application

6. Below is a list of words from the reading. Choose five words that link well together. Then write a **short story** about the day in the life of a muscle. Be imaginative!

muscle fiber cardiac striped system
 arm cell movement surprised change
 attached voluntary smooth control
 help surprising feel clue

7. Using the Internet or books from the library, research **six** different foods that help build healthy muscles. Use these foods to create a **menu** for one day of muscle-healthy eating.

8. **Multiple Sclerosis** is a serious muscle disease. Research important facts about this disease in an encyclopedia or on the Internet. Write a three-paragraph report on the information you find. Try to find out when it was discovered. List its symptoms and treatments.



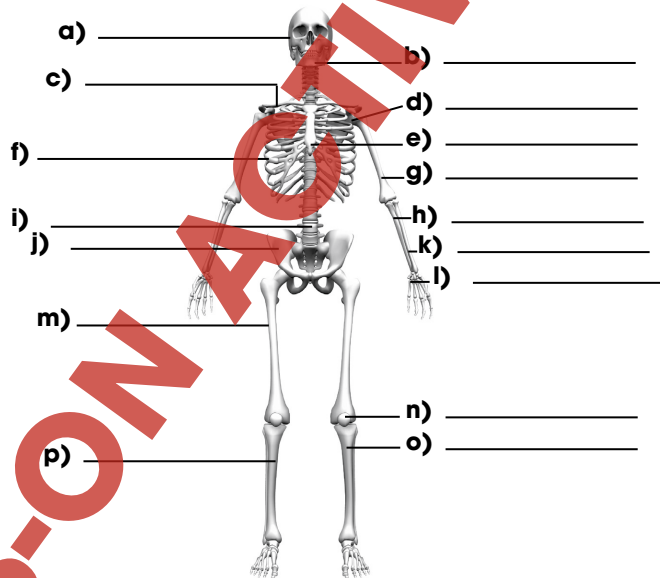
Invent an Alien Skeleton!

This activity has two parts. For the first part, you will label the bones in the human skeleton. For the second part, you will use what you have learned to invent your own extra-terrestrial skeleton.

Part 1

Use the words in the list to label the bones on the skeleton. You may need to do some research to complete this part.

- ribs
- patella
- backbone
- pelvis
- femur
- tibia
- scapula
- sternum
- humerus
- fibula
- clavicle
- radius
- phalanges
- ulna
- mandible



Part 2

Now, it is time to draw your own alien skeleton! You must use at least ten different skeleton parts from the diagram above. You may use the parts more than once if you like. Be as imaginative as you can! Draw your skeleton on a separate sheet of paper. Above your drawing, copy and complete the following:

Hello, I am an extra-terrestrial from the planet _____.

My name is _____ and my favorite food is _____.

I have _____ skulls, _____ femurs, _____ tibias, and _____ ribs.



Word Search

Find all of the words in the Word Search. Words are written horizontally, vertically, diagonally, and some are even written backwards.

- multicellular
- tissue
- calcium
- specialized
- unicellular
- marrow
- nucleus
- organ
- compact
- cytoplasm
- muscle
- cartilage
- mitochondria
- nerve
- tendon
- lysosomes
- skeletal
- contract
- complex
- cardiac
- socket
- joint
- involuntary
- hinge
- fiber
- striated
- bundled
- rotation

Q	A	Z	X	S	M	C	T	C	A	P	M	O	C	S	W	E	U
P	L	K	S	A	A	D	K	G	O	P	M	K	P	S	N	E	
W	S	D	R	I	E	D	S	U	E	L	C	J	N	E	I	J	B
S	Y	R	D	H	N	M	J	C	O	N	T	R	A	C	T	K	U
C	O	R	T	G	B	Y	H	N	M	J	U	K	E	I	P	L	M
W	A	C	X	D	S	K	E	I	E	T	A	L	D	A	R	F	X
C	T	L	K	Y	H	N	U	J	M	K	L	E	D	L	T	J	K
B	G	T	C	E	Y	H	N	U	K	U	O	P	H	I	N	G	E
E	D	T	A	I	T	Y	H	N	L	I	U	J	M	Z	I	K	P
W	S	T	R	Y	U	H	N	A	M	N	E	R	V	E	K	G	B
A	Z	D	T	F	G	M	R	H	J	V	T	H	U	D	Y	H	A
U	J	O	I	N	T	Y	L	Y	S	O	S	O	M	E	S	G	I
V	F	R	L	A	G	B	N	M	J	L	K	H	F	I	B	E	R
C	U	J	A	G	J	K	L	M	B	U	N	D	L	E	D	C	D
Y	O	H	G	R	S	T	R	I	A	T	E	D	M	J	K	U	N
T	Q	M	E	O	S	T	R	I	A	T	E	D	U	C	V	B	O
O	T	B	F	Y	E	S	R	O	T	A	T	I	O	N	M	D	H
P	D	C	T	L	T	Y	J	U	K	R	N	K	U	T	G	H	C
L	T	D	C	H	E	I	R	O	T	Y	T	I	O	N	Y	F	O
A	D	S	Z	X	C	X	S	T	G	B	N	N	O	D	N	E	T
S	U	S	D	F	T	H	U	S	D	Y	A	W	E	R	Q	F	I
M	U	L	T	I	C	E	L	L	U	L	A	R	A	Y	G	C	M
D	E	L	D	N	U	B	D	S	X	E	Y	H	N	M	K	U	P



Comprehension Quiz

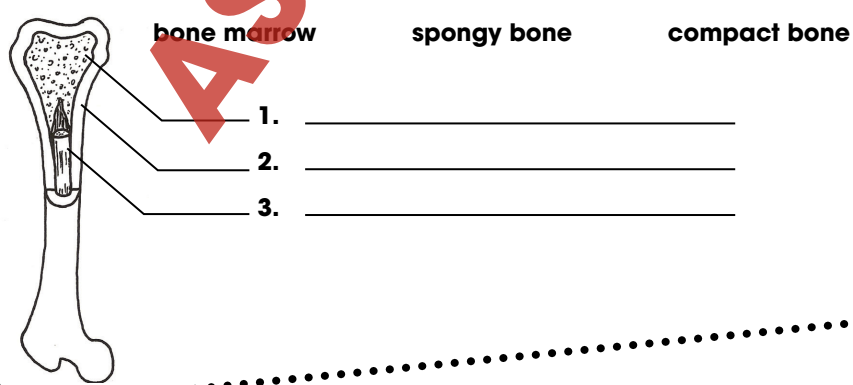
Part A

Circle **T** if the statement is TRUE or **F** if it is FALSE.

- T F** 1) The cell nucleus contains hereditary information called DNA.
- T F** 2) In the human body, organs are made of groups of tissue that have a specific job.
- T F** 3) Organ systems are simpler than organs.
- T F** 4) Three of the major organ systems in the human body are the respiratory system, skeletal system and brain system.
- T F** 5) In the circulatory system, the heart pumps blood through our nerves.
- T F** 6) The main jobs of the skeletal system is to give protection and support.
- T F** 7) The ends of our bones are covered by a rubbery material called cytoplasm.
- T F** 8) Skeletal muscles control the digestion of food in our stomach.

Part B

On the diagram below, label the three layers of bone. Use the words in the list.



1. _____
2. _____
3. _____

SUBTOTAL: /14

Muscular Runner



NAME: _____

After You Read 



The Muscular System - Muscles

3. What are two ways muscles help us?

4. What do skeletal and cardiac muscles look like?

5. What muscle do you think is the most important and why do you think so?

Extension and Application

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muscle	fiber	cardiac	striped	system
arm	cell	movement	surprised	change
attached	voluntary	smooth	control	
help	surprising	feel	clue	

7. Using the Internet or books from the library, research **six** different foods that help build healthy muscles. Use these foods to create a **menu** for one day of muscle-healthy eating.
8. **Multiple Sclerosis** is a serious muscle disease. Research important facts about this disease in an encyclopedia or on the Internet. Write a three-paragraph report on the information you find. Try to find out when it was discovered. List its symptoms and treatments.

3. Possible answers: Give our body shape, help us move
4. Stripes
5. Answers will vary
6. Answers will vary
7. Answers will vary
8. Answers will vary

Answers will vary

11

Answers will vary

12

Part 1

- a) skull
- b) mandible
- c) clavicle
- d) scapula
- e) sternum
- f) ribs
- g) humerus
- h) ulna
- i) backbone
- j) pelvis
- k) radius
- l) phalanges
- m) femur
- n) patella
- o) tibia
- p) fibula

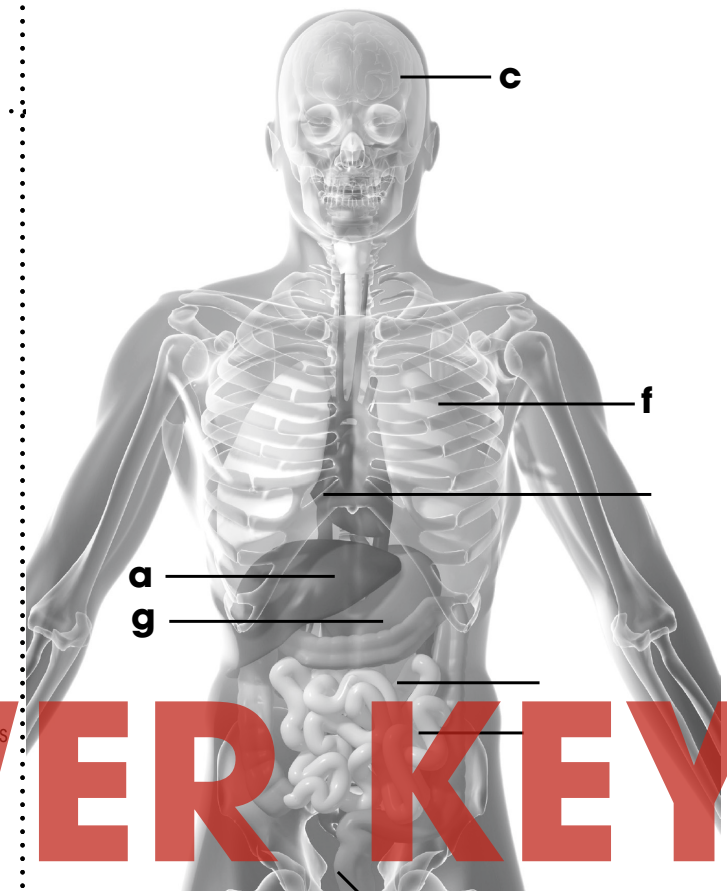
Part 2

Answers will vary

10

13

14



EASY MARKING ANSWER KEY