



## TEACHER GUIDE

- Assessment Rubric ..... 4
- How Is Our Resource Organized? ..... 5
- Bloom's Taxonomy for Reading Comprehension ..... 6
- Vocabulary ..... 6



## STUDENT HANDOUTS

- Reading Comprehension

1. Cells – The Building Blocks of Life .....
2. Cell Structures & Functions .....
3. Cells, Tissues, Organs & Systems .....
4. What Are Organs & Organ Systems? ..... 7

5. The Skeletal System – Bones .....
6. The Skeletal System – Joints & Cartilage .....
7. The Muscular System – Muscles.....
8. The Muscular System – Movement.....

- Hands-on Activities ..... 11
- Crossword ..... 15
- Word Search ..... 16
- Comprehension Quiz ..... 17



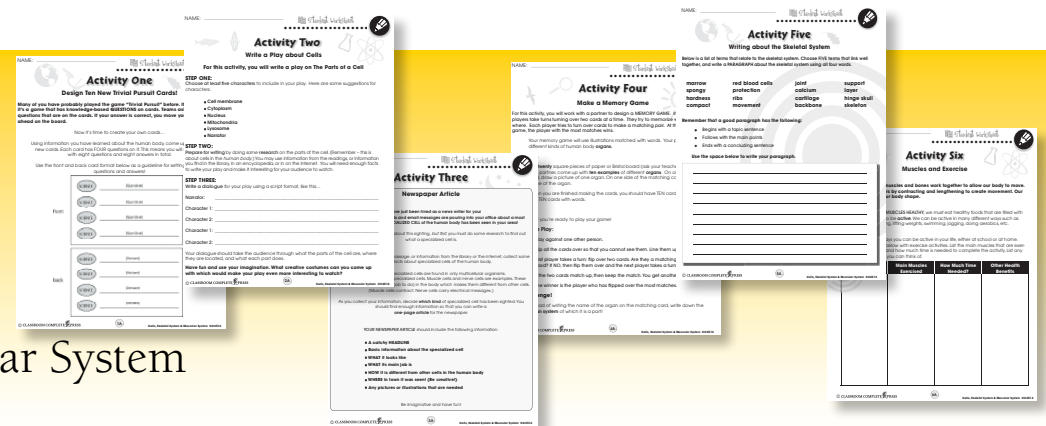
## EASY-MARKING™ ANSWER KEY ..... 19

## MINI POSTERS ..... 21

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- Go to our website:  
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- Click on item CC4516 – Cells, Skeletal System & Muscular System
- Enter pass code CC4516D





# What are Organs and Organ Systems?

1. You be the teacher! Someone has matched the word on the left to the definition on the right. Are they correct? If **yes**, mark it correct with a check mark in the box beside each. If **no**, write an X in the box and correct the work by drawing an arrow to the correct definition. You may use a dictionary to help.

|   |                            |  |
|---|----------------------------|--|
| <input type="radio"/> Digestive System    | <input type="checkbox"/> A | Creates or reproduces new life   |
| <input type="radio"/> Circulatory System  | <input type="checkbox"/> B | Helps us to eat and get nutrition from our food                                  |
| <input type="radio"/> Reproductive System | <input type="checkbox"/> C | Makes it possible for you to throw a ball or jump over a hole in the sidewalk    |
| <input type="radio"/> Organ System        | <input type="checkbox"/> D | Helps keep our body clean by removing waste materials                            |
| <input type="radio"/> Muscular System     | <input type="checkbox"/> E | All of the other systems listed here are examples of this.                       |
| <input type="radio"/> Excretory System    | <input type="checkbox"/> F | Moves our blood through our body (the heart is an important part of this system) |

2. In the chart below, write **at least one** thing that you know about each of these body systems. You may use a dictionary to help.

| Body System        | What I Know |
|--------------------|-------------|
| Skeletal System    |             |
| Nervous System     |             |
| Digestive System   |             |
| Muscular System    |             |
| Respiratory System |             |



# What are Organs and Organ Systems?

**G**roups of tissue that work together join to form the many different **organs** in the human body. These organs include the liver, kidneys, heart and eyes. Even our skin is an organ. In fact, did you know that the skin is the largest organ in the human body?

Organs that all work together join to form **organ systems**. There are eight major organ systems in the human body. Read about them in the chart below.

| Organ System        | What It Does   |
|---------------------|--|
| <b>Skeletal</b>     | • The <b>bones</b> that make up the skeleton support and protect the body  |
| <b>Muscular</b>     | • <b>Muscles</b> allow the body to move<br>• Muscles also help the materials <i>inside</i> the body to move  |
| <b>Circulatory</b>  | • <b>Blood</b> moves nutrients and wastes around the body<br>• The <b>heart</b> pumps which makes the blood move   |
| <b>Nervous</b>      | • The <b>brain</b> sends electrical messages along the <b>spinal cord</b> and <b>nerves</b><br>• These messages tell the body what to do   |
| <b>Respiratory</b>  | • Our <b>lungs</b> are the main part of the respiratory system<br>• When we <b>breathe in</b> , a <b>gas</b> called <b>oxygen</b> goes into our lungs<br>• When we breathe <b>out</b> , a waste gas called <b>carbon dioxide</b> leaves our body |
| <b>Digestive</b>    | • Breaks down all food taken into the body when we eat<br>• The <b>nutrients</b> in food are used to keep us alive and healthy   |
| <b>Excretory</b>    | • Removes <b>waste</b> materials from the body   |
| <b>Reproductive</b> | • Creates new life through <b>sexual reproduction</b>  |

**STOP** The job of the respiratory system is to move **TWO** main gases. What are these two gases?

\_\_\_\_\_



# What are Organs and Organ Systems?

1. Use the terms in the box to answer each question. Some terms will be left over.

|                |           |       |       |       |
|----------------|-----------|-------|-------|-------|
| carbon dioxide | skin      | bones | lungs | brain |
| wastes         | nutrients | blood | eyes  |       |

- This organ is an important part of the nervous system because it sends messages to all other parts of the body. What is it?
- What is the largest organ in the human body?
- These have the important job of exchanging gases in our body. What are they?
- What is the main part of the skeletal system?
- Our excretory system removes this from our body in order to keep us alive. What is it?

2. In the chart below, list **at least one** way that each body system has helped you today. Once you are done, compare your answers with a classmate.

| Organ System | How this System has Helped Me Today |
|--------------|-------------------------------------|
| Skeletal     |                                     |
| Muscular     |                                     |
| Circulatory  |                                     |
| Nervous      |                                     |
| Respiratory  |                                     |
| Digestive    |                                     |
| Excretory    |                                     |



# What are Organs and Organ Systems?

3. How do groups of tissues become organs?

\_\_\_\_\_

4. How many major organ systems are there in the human body?

\_\_\_\_\_

5. a) **Underline** the terms that relate to the nervous system. **Circle** the terms that relate to the respiratory system. Be careful! Not all the terms apply.

|         |        |                     |                |             |
|---------|--------|---------------------|----------------|-------------|
| muscles | oxygen | sexual reproduction | brain          | spinal cord |
| lungs   | bone   | electrical messages | carbon dioxide | food        |
| breath  | nerves |                     |                |             |

b) **Underline** the terms that relate to the excretory system. **Circle** the terms that relate to the circulatory system. Be careful! Not all the words apply, and one word applies to **both** systems. **Put a box** around this term.

|        |       |          |           |                     |       |
|--------|-------|----------|-----------|---------------------|-------|
| bones  | brain | waste    | blood     | carbon dioxide      | lungs |
| oxygen | heart | skeleton | nutrients | sexual reproduction |       |









## Extension & Application

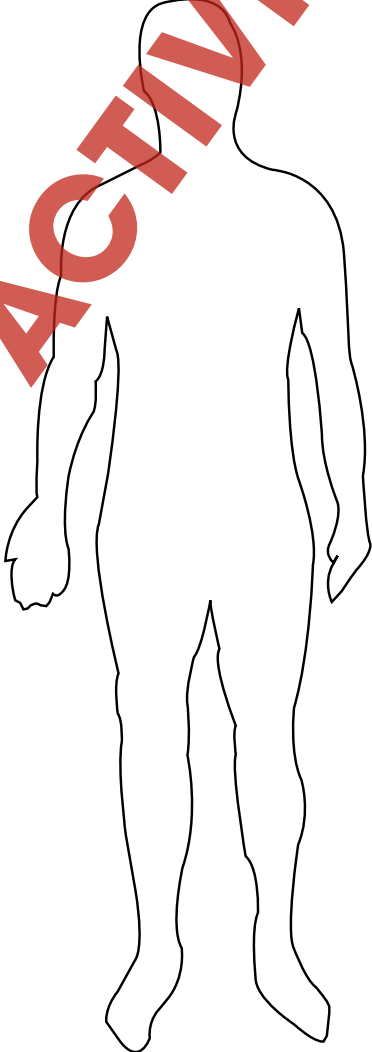
6. Using the information from this lesson and your own research, decide which organ should get the **"Most Valuable Organ" Award**. Create a poster celebrating this award and include all the reasons why this organ is the winner. Make sure to include a picture of the winning organ, too!



# Pin the Organ on the Body

Below is an outline of the human body. At the left side of the page are pictures of important **ORGANS** in the body. Your task is to **CUT OUT** each organ and **PASTE** it on the body where it belongs. You may use information from the reading passages, the Internet, or other resource materials to find the answers.

- a) liver 
- b) intestines 
- c) brain 
- d) bladder 
- e) heart 
- f) lungs 
- g) stomach 
- h) kidneys 



# 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 | 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 | J | 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 | I | 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

32

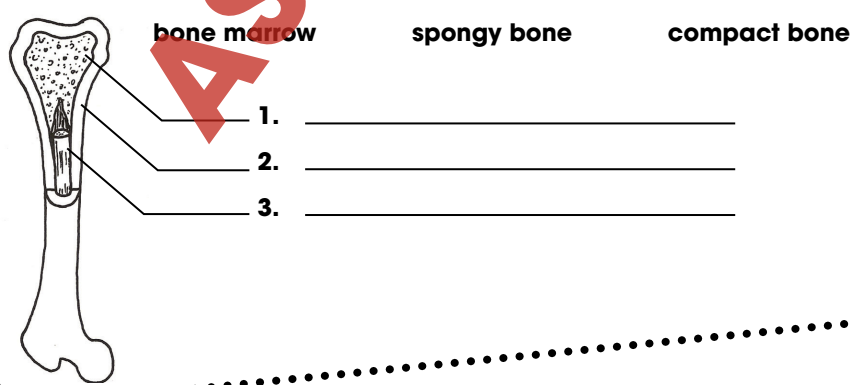
## Part A

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

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

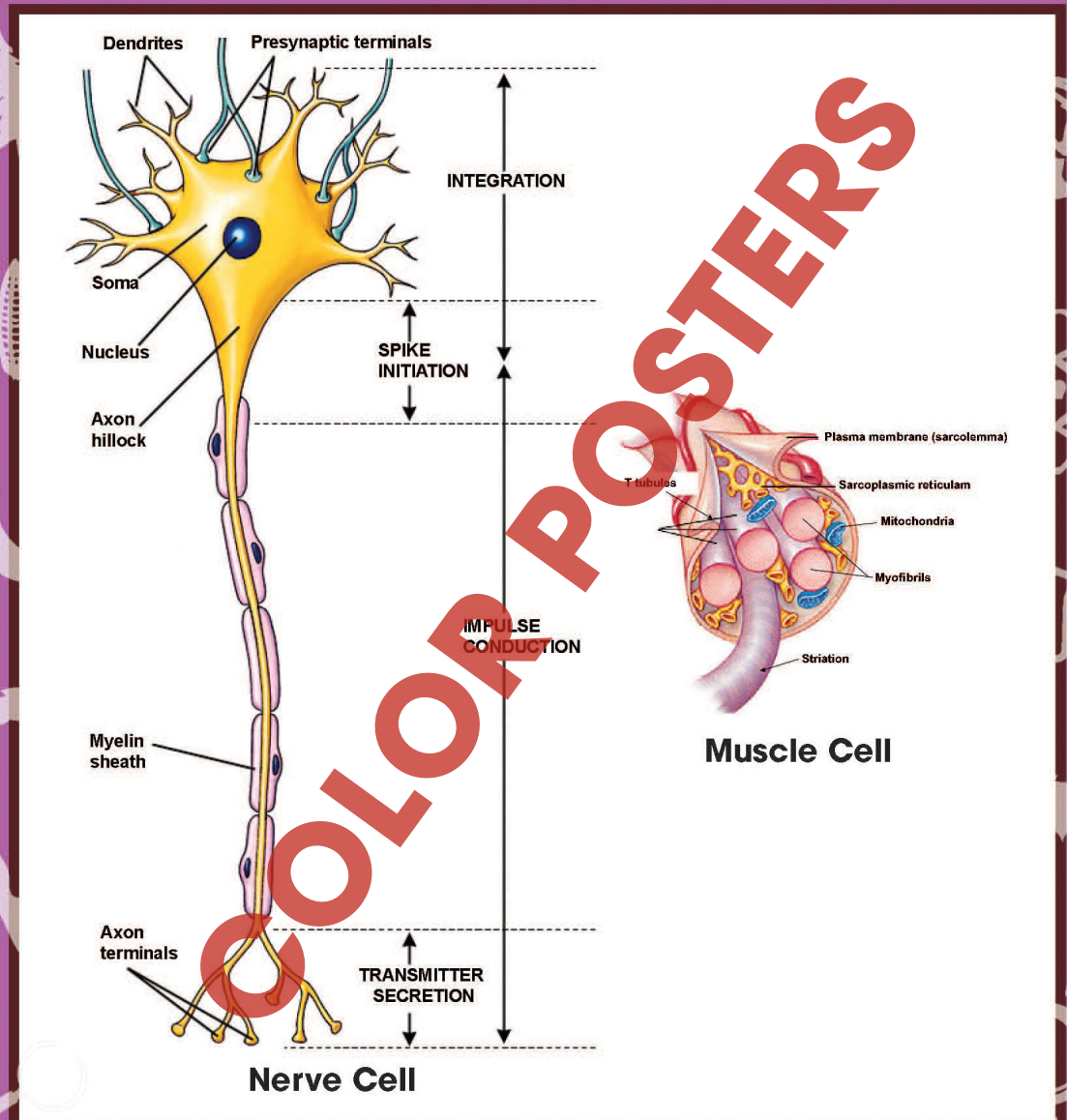
## Part B

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



SUBTOTAL: /14

# Human Body Cells





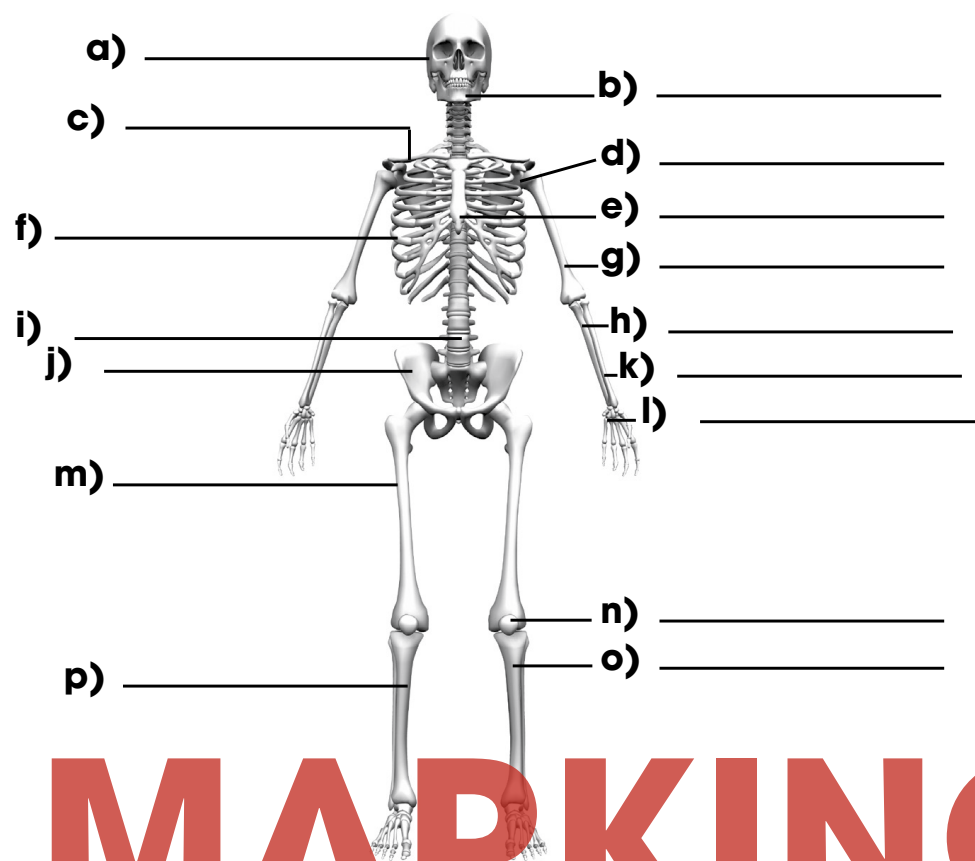
# Invent an Alien Skeleton!

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



Answers will vary

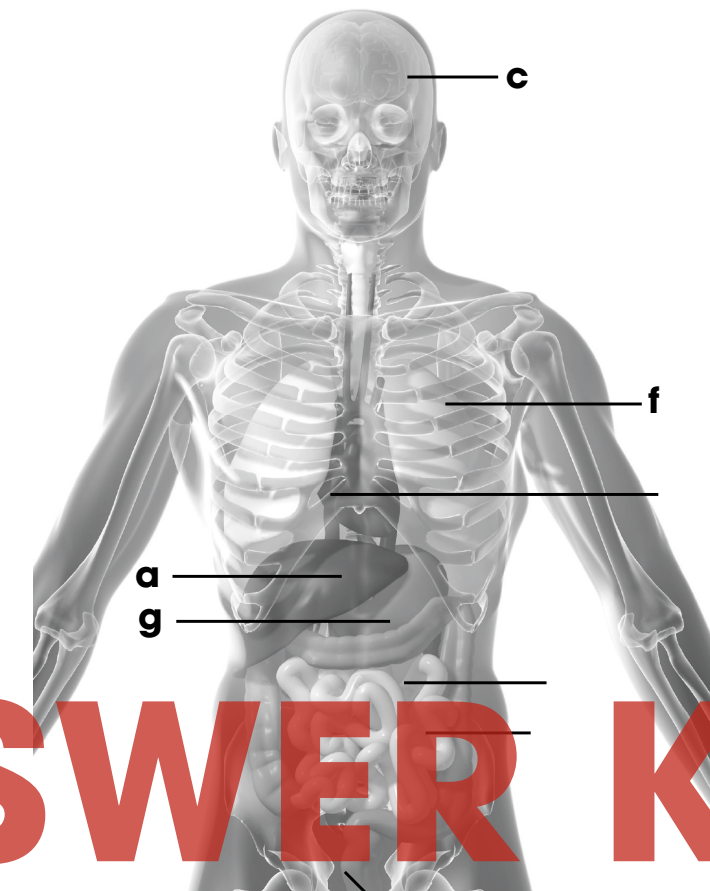
11

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

13

14

# EASY MARKING ANSWER KEY

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.

