



TEACHER GUIDE

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STUDENT HANDOUTS

- Reading Comprehension

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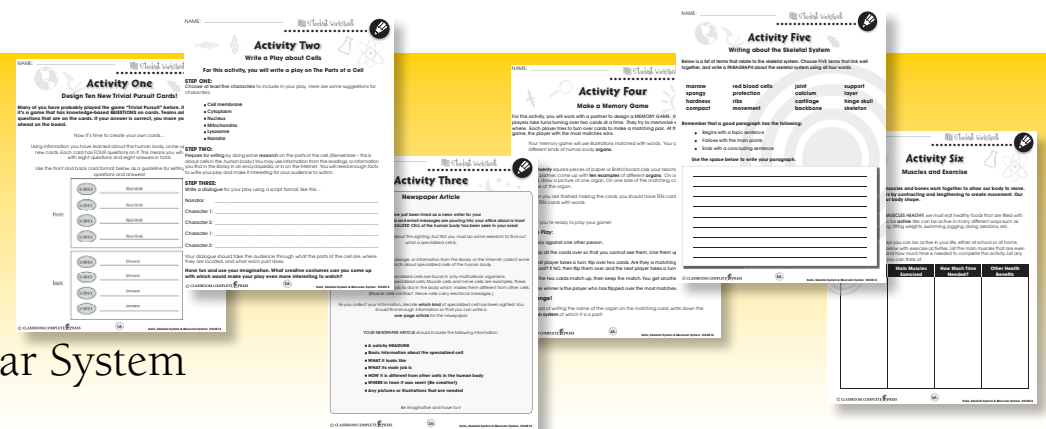
MINI POSTERS 22

FREE!

6 Bonus Activities!

3 EASY STEPS to receive your 6 Bonus Activities!

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



Cell Structures and Functions

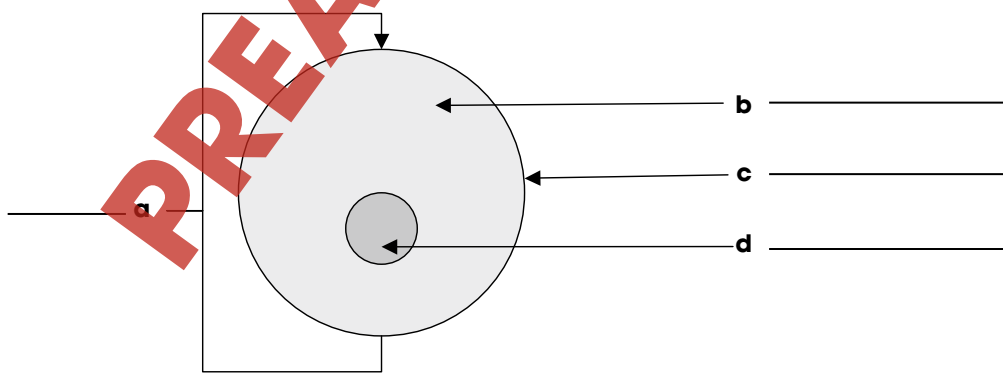
1. Complete each sentence with a word from the list. Use a dictionary to help you.

- | | | |
|---------------|-----------|--------------|
| DNA | nucleus | cytoplasm |
| cell membrane | lysosomes | mitochondria |

- The liquid inside a cell is called _____.
- One of the most important parts of a cell is called the _____ because it controls everything the cell does.
- The nucleus contains special information called _____. This hereditary information helps the cell to reproduce itself.
- The outside covering of a cell is called the _____.
- The _____ are the parts of the cell that help break down waste to keep the cell clean and healthy.
- The _____ helps break down the food we eat so it can be used by the cell.

2. Label the diagram using the terms in the list.

- | | | | |
|------|---------|---------------|-----------|
| cell | nucleus | cell membrane | cytoplasm |
|------|---------|---------------|-----------|



Cell Structures and Functions

Cells are many different shapes. They can be long like sticks, round like balloons or rectangular like building blocks. Cells are like a factory because they have many parts that work together to get important work done. In the chart below, we use the idea of a factory to help you remember the main parts and what they do.

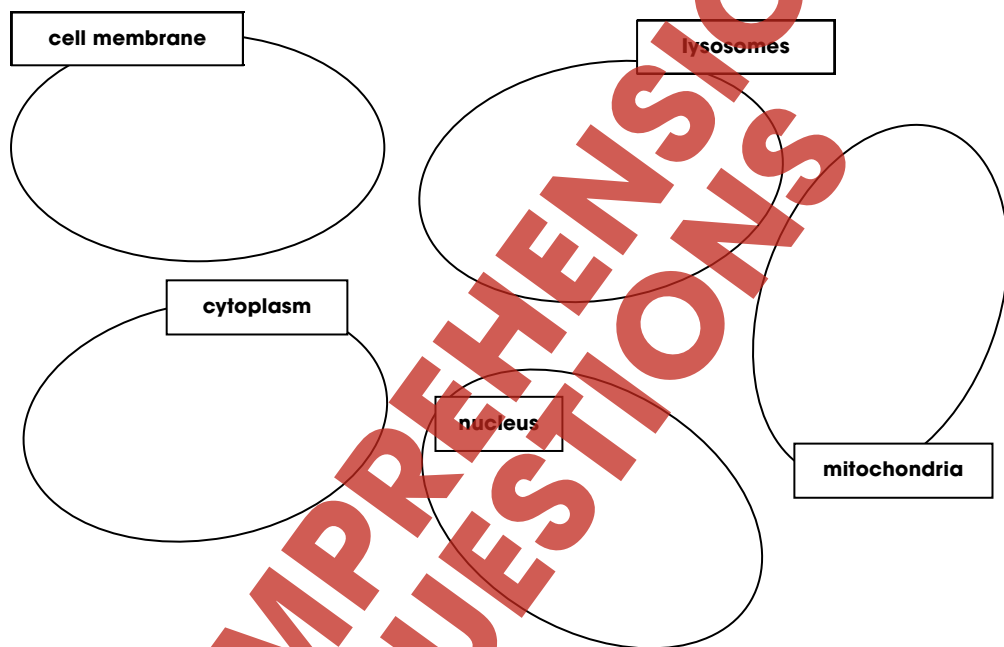
Cell Part	Where Is It?	What It Does	Job in the Factory
cell membrane	Surrounds the cell	• Separates the inside of the cell from its environment • Some elements are let in, some are kept out	• The factory wall or fence
cytoplasm	Inside the cell membrane	• Made of water and protein , where most of the cell work takes place	• The busy work space inside the factory
nucleus	Floating in the cytoplasm	• Controls the cell and stores the hereditary information for the cell (DNA)	• The factory manager, in charge of all the important activity and information
mitochondria	Floating in the cytoplasm	• Works to turn the food we eat into energy for the cell	• The cooks in the factory cafeteria making lunch for all the other workers
lysosomes	Floating in the cytoplasm	• Break down unneeded parts of the cell	• The factory janitor who keeps things clean

What is the OUTSIDE part of a cell? Why is it important?



Cell Structures and Functions

1. Use your knowledge from this reading, as well as the previous reading to complete this activity. Cut out and sort the descriptions at the bottom of the page. Glue them in the correct "cell" that matches each label.



Cell Part Descriptions

A I surround the outside of the cell	B This is where all the work takes place - like the inside of a factory	C We help keep the cell clean	D I float in the cytoplasm
E I float in the cytoplasm, too!	F Wow! It's crowded in here! I float in the cytoplasm, too!	G I'm like the factory wall - I let things in and keep things out	H I help turn the food you eat into what the cell needs to survive
I This is where the DNA is stored	J I am made of water and protein	K I'm like the manager of the cell - I am in charge of everything!	L This is the liquid inside the cell



Cell Structures and Functions

2. What are some of the shapes cells can be?

3. Why is the idea of a factory a good one to understand cell functions?

4. Here are some new words from the reading. Write each word beside its meaning. Use a dictionary to help.

- | | | | | |
|-----|-------------|---------|------------|----------|
| DNA | environment | protein | hereditary | elements |
|-----|-------------|---------|------------|----------|

- _____ **a)** All of the things and conditions in the surroundings
- _____ **b)** Passing from parents to offspring (children) - eye color is an example of this
- _____ **c)** Similar to "things", the most basic parts that make up something
- _____ **d)** The material inside the nucleus that stores hereditary information
- _____ **e)** A material we get from food that is necessary for human life to exist

Extension & Application

- Look at the cell diagram on the next page. Use the Internet or books from the library to find a diagram like this one. Use the information you find to label the parts of the cell on the diagram.
- There are more parts in a cell than the ones discussed in the reading. These include: **ribosomes, golgi bodies** and **endoplasmic reticulum**. Do some research to find important facts about **at least one** of these cell structures. Where are they located in the cell? What do they look like? What important job do they do? Include a labeled diagram or illustration with the cell parts in it.



Create a Human Body Organ System Booklet

We have learned that the human body has **EIGHT** major organ systems. Each system is made up of important **ORGANS**, and these organs work together as a **SYSTEM**. All of these organ systems have important jobs to do to keep our body healthy and alive.

Your task is to create a booklet with important facts about each of the organ systems:

- | | |
|--------------------|---------------------|
| skeletal system | muscular system |
| circulatory system | nervous system |
| respiratory system | digestive system |
| excretory system | reproductive system |

YOUR BOOKLET SHOULD INCLUDE:

- a cover page with the title of your book
- a Table of Contents page
- at least one page for each organ system

COLLECTING YOUR INFORMATION:

Begin by collecting important **facts** about each system. You may use the reading passages, the Internet, or other resource materials to find your information. For each organ system, try to include the following:

1. **Major organs** that make up the system
2. The **main jobs** of the organ system (what it does)
3. A **picture** that shows what the system looks like (be sure to label all the parts!)
4. Other interesting facts that you find



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 C

Answer each question in complete sentences.

1. What are **specialized cells**? Are they found in unicellular or multicellular organisms? Give an example of an organism that is made of specialized cells. 3

2. Name **two parts of a cell**. Describe the **function** of each part in the cell. 4

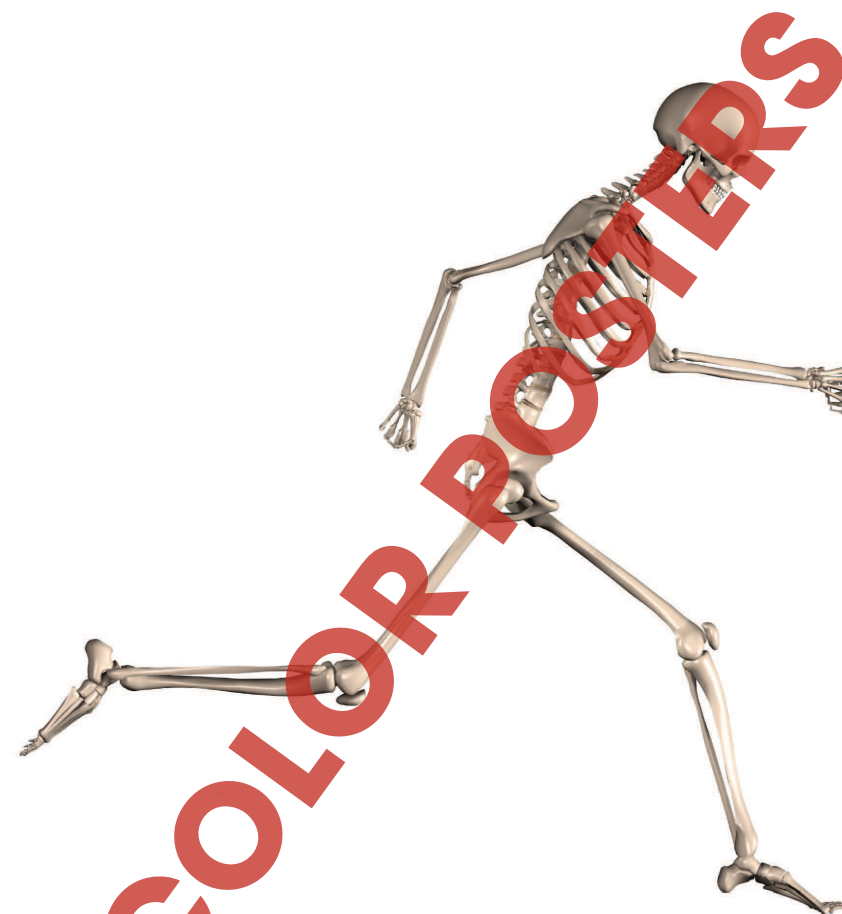
3. Name **one kind of tissue** in the human body. Describe **what it does** in the body. Give an example of this type of tissue. 3

4. What is the difference between **voluntary** and **involuntary** movement? Name **one** kind of muscle that moves voluntarily. Name **one** kind of muscle that moves involuntarily. 4

5. Describe how **voluntary movement** happens. Use the words **brain**, **muscle pair** and **bone** in your answer. 4

SUBTOTAL: /18

Skeletal Runner





Cell Structures and Functions

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EASY MARKING ANSWER KEY

Extension & Application

5. Look at the **cell diagram** on the next page. Use the Internet or books from the library to find a diagram like this one. Use the information you find to **label the parts of the cell** on the diagram.
6. There are more parts in a cell than the ones discussed in the reading. These include: **ribosomes, golgi bodies** and **endoplasmic reticulum**. Do some research to find important facts about **at least one** of these cell structures. Where are they located in the cell? What do they look like? What important job do they do? Include a labeled diagram or illustration with the cell parts in it.

2.

Thin and long, round, rectangular

Answers will vary

12

3.

Like a factory, cells have many parts that work together to get important work done

Answers will vary

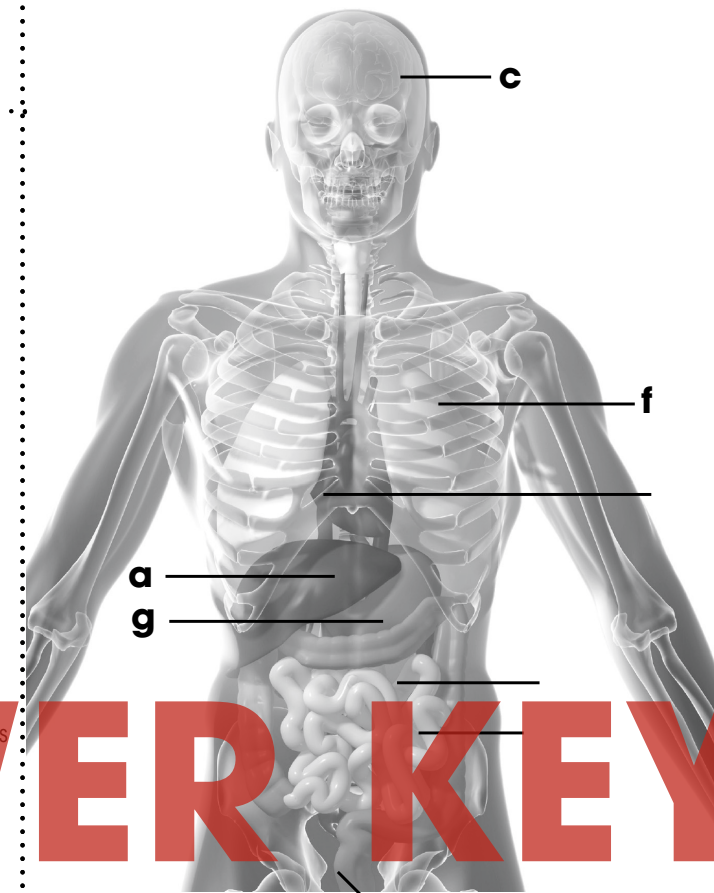
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Part 1

4.

- a) environment
- b) hereditary
- c) elements
- d) DNA
- e) protein

- 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



5.

- a) Cell membrane
- b) Nucleus
- c) Ribosome
- d) Lysosome
- e) Mitochondria

Part 2

Answers will vary

6.

Answers will vary

10

14

15

