

Name: \_\_\_\_\_

**CELLS AND SYSTEMS**

Blk: \_\_\_\_\_ Date: \_\_\_\_\_

**CHAPTERS 1, 2.1 & 3**

**UNIT I Cells and Systems Key Terms**

These are the vocabulary words that you should know for your final exam.

**Chapter 1**

Bacteria      Cell  
Cell membrane  
Cell theory    chloroplast  
compound light microscope  
cytoplasm      diffusion  
electron micrograph  
endoplasmic reticulum  
eukaryotic cells  
golgi body      lysosome  
Metabolism    mitochondria  
Nucleus        organelle  
Organism      ribosome  
Prokaryotic cells  
Scanning electron  
    microscope  
Selectively permeable  
    membrane  
Vacuole        virus

**Chapter 2**

Cell(s)  
Tissue(s)  
Organ(s)  
11 organ systems

**Chapter 3**

antibody  
antigen  
immune system  
pathogen  
white blood cells  
vaccine

**UNIT I Key Concepts**

These are the main ideas from this unit. Fill-in-the-blanks to complete.

**Chapter 1: The KMT explains characteristics of solids, liquids and gases**

- Living things have 5 main characteristics: (1.1)

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

- A \_\_\_\_\_ light microscope is an important tool in the study of tiny living things. (1.1)

- \_\_\_\_\_ states that the cell is the basic unit of life. (1.2)

- Each cell structure and \_\_\_\_\_ carries out a specific task to help support the life functions of a cell. (1.2)

- \_\_\_\_\_ is the movement of water from an area of higher concentration to an area of lower concentration. (1.3)

## **Chapter 2: Human body systems work independently and together.**

- The human body is organized into different \_\_\_\_\_ (2.1)
- Cells with the same structure and function form \_\_\_\_\_, and groups of tissues form \_\_\_\_\_. (2.1)

## **Chapter 3: The immune system protects the human body.**

- Infectious diseases are caused by a \_\_\_\_\_. (3.1)
- The \_\_\_\_\_ attacks and destroys invaders such as pathogens and antigens that enter the body. (3.1)
- The immune system's first line of defence is the \_\_\_\_\_ and the linings of the body's internal systems. (3.1)
- The immune system's second line of defence may be either an \_\_\_\_\_ immune response or an \_\_\_\_\_ immune response to an invading pathogen. (3.2)
- \_\_\_\_\_ are weakened versions of a disease pathogen. (3.2)
- Immune system disorders occur when the immune system malfunctions and works against the body it is supposed to protect. (3.2)

## **Unit 1 Cells and Systems**

### **Ch.1 The cell is the basic unit of life**

- |                                    |   |
|------------------------------------|---|
| 1. _____ bacteria                  | A. states three important points re: cells  |
| 2. _____ cell                      | B. the movement of materials from an area of high concentration to an area of low concentration |
| 3. _____ cell membrane             | C. jelly-like substance within a cell   |
| 4. _____ cell theory               | D. has organelles surrounded by membranes   |
| 5. _____ cell wall                 | E. controls entry into and out of the cell  |
| 6. _____ compound light microscope | F. the movement of water from an area of high concentration to an area of low concentration     |
| 7. _____ cytoplasm                 | G. outermost layer of plant cells giving it protection and shape                                |
| 8. _____ diffusion                 | H. carries the genetic code; found on the chromosomes   |
| 9. _____ DNA                       | I. the total of all chemical reactions in cells   |
| 10. _____ eukaryotic cells         | J. allow some materials to pass through it but keeps other materials out                        |
| 11. _____ metabolism               | K. uses lenses and light to magnify images  |
| 12. _____ organelle                | L. organelles are not surrounded by membranes   |
| 13. _____ organism                 | M. a living thing   |
| 14. _____ osmosis                  | N. the basic unit of life   |

- 15. \_\_\_\_ prokaryotic cells
- 16. \_\_\_\_ scanning electron microscope
- 17. \_\_\_\_ selectively permeable membrane
- 18. \_\_\_\_ virus
- O. uses beams of electrons to produce magnified images
- P. tiny non-living particles that usually cause diseases
- Q. single-celled, prokaryotic organisms; some may cause disease
- R. parts of cells with specific tasks

**Which organelle performs each of the following functions within the cell?**

- 19. storage compartment for water & wastes \_\_\_\_\_
- 20. traps energy from the sun and makes food for plants \_\_\_\_\_
- 21. controls all the activities of the cell; contains DNA \_\_\_\_\_
- 22. the energy producers of cell (aka the "powerhouse" ) \_\_\_\_\_
- 23. sorts & packages proteins into vesicles \_\_\_\_\_
- 24. contain digestive chemical to break down particles such as food, wastes and worn-out cell parts \_\_\_\_\_
- 25. where proteins are made \_\_\_\_\_
- 26. the transportation network of cells \_\_\_\_\_

27. Describe the **differences** between plant and animal cells.

28. Complete the table for the comparison of Bacteria vs. Viruses

	<b>Bacteria</b>	<b>Viruses</b>
<b>Living or non-living?</b>		
<b>Relative size (ex. which one is smaller? bigger?)</b>		
<b>If it causes harm in humans, how can what do we use to either treat an infection or prevent it?</b>		

**Ch.2 Human body systems work independently and together**

- 1. \_\_\_\_ organs
- 2. \_\_\_\_ cell
- 3. \_\_\_\_ tissues
- 4. \_\_\_\_ Organ system
- A. a group of tissues that work together to perform a certain function
- B. a group of cells that work together to perform a certain function
- C. a group of organs that work together to perform a certain function
- D. the basic unit of life

### Ch.3 The Immune System protects the human body

- |                                  |   |
|----------------------------------|---|
| 1. ____ acquired immune response | A. a dead or weakened form of an antigen that can provide immunity against a disease                |
| 2. ____ active immunity          | B. disease-causing invaders   |
| 3. ____ allergy                  | C. a powerful pathogen that attacks the immune system and can infect helper T cells                 |
| 4. ____ anaphylactic shock       | D. long-lasting disease protection due to antibodies being stored in the body on memory B cells     |
| 5. ____ antibody                 | E. highly specific attack on a pathogen or antigen by creating antibodies to fight it               |
| 6. ____ antigen                  | F. system that defends the body from infection and disease  |
| 7. ____ B cells                  | G. a severe allergic reaction that can result in swelling, breathing difficulty and sometimes death |
| 8. ____ histamines               | H. one type can activate B cells, the other can kill antigens                                       |
| 9. ____ HIV                      | I. swelling and redness at the site of infection  |
| 10. ____ immune system           | J. chemicals released by the body in response to an allergen  |
| 11. ____ innate immune response  | K. specific particles that can attach to and destroy antigens & pathogens                           |
| 12. ____ inflammation            | L. recognize antigens and produce antibodies to fight them  |
| 13. ____ pathogen                | M. cells that fight infection   |
| 14. ____ T cells                 | N. a quick, general immune response that you are born with  |
| 15. ____ white blood cells       | O. a high sensitivity to a substance  |
| 16. ____ vaccine                 | P. foreign substances in the body   |

