

Name: KEY

CELLS AND SYSTEMS

Blk: _____ Date: _____

CHAPTERS 1, 2.1 & 3

80 TOTAL

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)

NEED ENERGY

GROW

REPRODUCE

ELIMINATE WASTE

RESPOND TO ENVIRONMENT

- A COMPOUND light microscope is an important tool in the study of tiny living things. (1.1)
- CELL THEORY states that the cell is the basic unit of life. (1.2)
- Each cell structure and "ORGANELLE" carries out a specific task to help support the life functions of a cell. (1.2) (OR SPECIFIC ONE)
- OSMOSIS is the movement of water from an area of higher concentration to an area of lower concentration. (1.3)

9

Chapter 2: Human body systems work independently and together.

- 3
- The human body is organized into different ORGAN SYSTEMS. (2.1)
 - Cells with the same structure and function form tissues, and groups of tissues form organs. (2.1)

Chapter 3: The immune system protects the human body.

- 6
- Infectious diseases are caused by a PATHOGEN. (3.1)
 - The IMMUNE SYSTEM 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 SKIN and the linings of the body's internal systems. (3.1)
 - The immune system's second line of defence may be either an INNATE immune response or an ACQUIRED immune response to an invading pathogen. (3.2)
 - VACCINES 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

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

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

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

19. storage compartment for water & wastes vacuole
20. traps energy from the sun and makes food for plants Chloroplast
21. controls all the activities of the cell; contains DNA nucleus
22. the energy producers of cell (aka the "powerhouse") mitochondria
23. sorts & packages proteins into vesicles golgi body
24. contain digestive chemical to break down particles such as food, wastes and worn-out cell parts lysosome
25. where proteins are made ribosome
26. the transportation network of cells endoplasmic reticulum
27. Describe the **differences** between plant and animal cells.

PLANT CELLS → cell wall & Chloroplasts (photosynthesis) 2

ANIMAL CELLS → (cellular respiration) + cellular resp. 1

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

	Bacteria	Viruses
Living or non-living?	LIVING	NON-LIVING
Relative size (ex. which one is smaller? bigger?)	"BIGGER"	"SMALLER"
If it causes harm in humans, how can what do we use to either treat an infection or prevent it?	ANTIBIOTICS	VACCINATIONS

Ch.2 Human body systems work independently and together

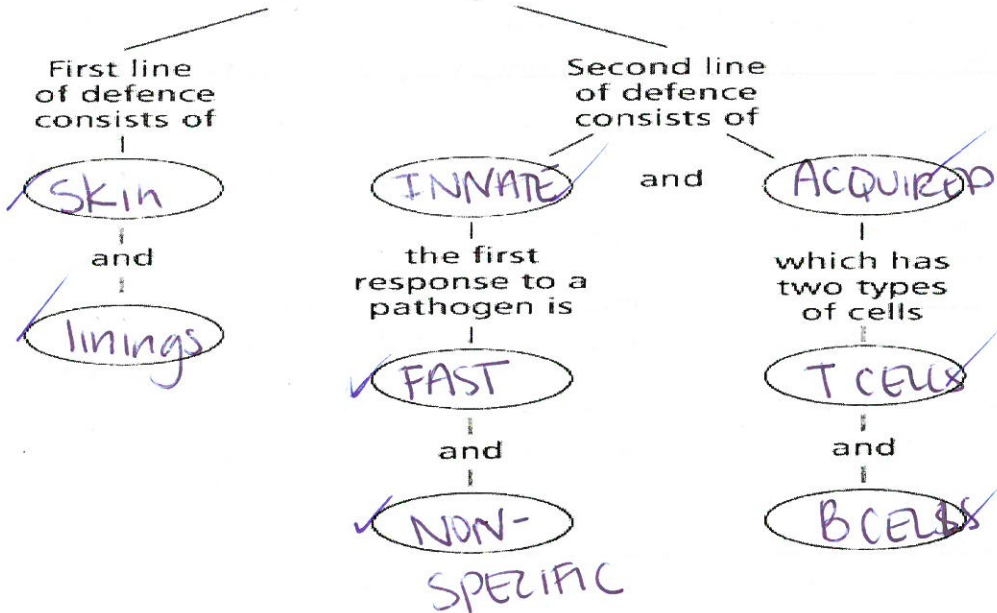
1. A organs A. a group of tissues that work together to perform a certain function
2. D cell B. a group of cells that work together to perform a certain function
3. B tissues C. a group of organs that work together to perform a certain function
4. C Organ system D. the basic unit of life

Ch.3 The Immune System protects the human body

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

16

The Immune System



8