



Student Name _____

Class _____

1. Growth and development occur in all living organisms. When this organ in a human gets worn away it is replaced ...
 - A. skin
 - B. lung
 - C. liver
 - D. kidney

2. Energy is the *ability to do make things move or change* and is needed by all organisms. The sum of all the different processes that happen in an organism is referred to as the organism's ...
 - A. nutrient flow
 - B. energy flow
 - C. metabolism
 - D. nutrient balance

3. The basic unit of every system is a ...
 - A. cell
 - B. organ
 - C. tissue
 - D. nucleus

4. This organ is the key organ in the body that coordinates all other organs ...
 - A. Skin
 - B. Brain
 - C. Heart
 - D. Small Intestine

5. This organ system removes gaseous wastes from the body. This body system is the ...
 - A. Digestive system
 - B. Excretory system
 - C. Circulatory system
 - D. Respiratory system

6. The small holes on the sides of an insect's abdomen, which enable the insect to breath are called ...
 - A. 'Sportacles'
 - B. 'Spiracles'
 - C. 'Spectracles'
 - D. 'Spirals'

7. Reproduction is not actually necessary for an individual organism to survive, but it is necessary for the survival of a/an ...
 - A. male organism
 - B. female organism
 - C. extinct organism
 - D. species of organism

8. Charles Darwin found 13 closely related species of finches on these ...
 - A. Easter Islands
 - B. Galapagos Islands
 - C. East African Islands
 - D. Guinea West Coast Islands



Cells and Systems UNIT Test

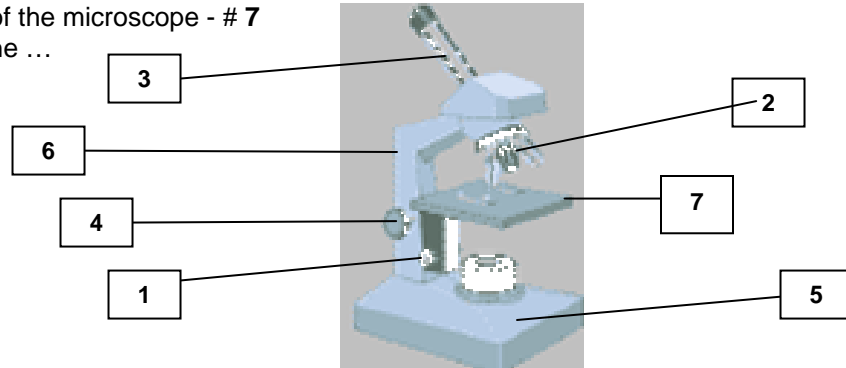
Unit 2

9. Darwin's finches have different variations in bill size - accounting for their feeding pattern. A parrot-like finch with a thick bill would use this type of bill because it eats ...
- A. berries on bushes
 - B. fruit found in tall trees
 - C. seeds and nuts found on the ground
 - D. insects hiding inside the bark of trees
10. Organisms have different structures for similar functions. An example that illustrates this would be ...
- A. fish gills – spiracles
 - B. human lung – web feet
 - C. barnacles – snake tongue
 - D. bird wings – plant leaves
11. There are two types adaptations. *Structural adaptations* enable organisms to change their appearance, whereas, *behavioral adaptations* enable organisms to change their behavior. Which of the following adaptations is *structural*?
- A. cacti have spines for protection
 - B. giraffes eat leaves from the treetops
 - C. birds fly south to avoid cold winter
 - D. snowshoe hare running from its predator
12. This body system defends the body against disease ...
- A. Digestive system
 - B. Integumentary system
 - C. Nervous system
 - D. Circulatory system
13. These structures move organs such as the heart and stomach, so they can properly perform their function...
- A. bones
 - B. nerves
 - C. muscles
 - D. capillaries
14. Organs work together to make a system or network that performs a specialized function. Plants have only two main systems. They are the ...
- A. shoot and the roots
 - B. roots and the leaves
 - C. stems and the leaves
 - D. leaves and the shoot
15. This organ system carries nutrients throughout the body, so that specialized cells can perform specialized functions. This body system is the ...
- A. digestive system
 - B. muscular system
 - C. respiratory system
 - D. circulatory system
16. The technology that allows light to travel down a flexible tube – enabling surgeons to create microscopes that can be used inside the body – is called ...
- A. flex fibers
 - B. fiber optics
 - C. optical lens
 - D. optical lights



- 17. Each body system is connected to other body systems. The circulatory system's primary function is to ...
 - A. exchange gases
 - B. get rid of wastes
 - C. get nutrients to the cells
 - D. to protect the other systems

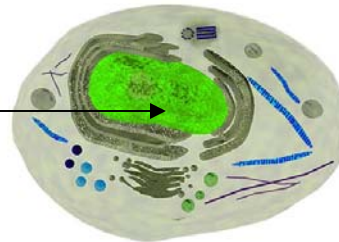
- 18. This part of the microscope - # 7 is called the ...



- A. eyepiece
 - B. diaphragm
 - C. stage
 - D. base
- 19. This part of the microscope is the coarse adjustment of the stage. It is identified by number ...
 - A. 2
 - B. 4
 - C. 5
 - D. 6

- 20. There are three factors that can affect your ability to see details of the internal parts of cells. The three factors include all of the following EXCEPT, the
 - A. number of cells
 - B. type of microscope
 - C. power of the lenses
 - D. quality of the prepared slides

- 21. The illustration shown here is an animal cell. The function of the **nucleus** is to ...



- A. control the flow of nutrients – ‘The Gateway’
 - B. convert energy into useable forms – ‘The Powerhouse’
 - C. direct all activities in the cell - The ‘Command Center’
 - D. store nutrients the cell needs – ‘The Storage Room’
- 22. When preparing slides to be used under the objective lenses of the microscope you always begin with the objective lens that is the ...
 - A. clearest
 - B. cleanest
 - C. highest power
 - D. lowest power



- 23. The function of specialized tissues in plants enables the plant to perform many different activities. The transportation of water from the roots to the other parts of the plant is the function of this plant tissue ...
 - A. Root hairs
 - B. Stoma tissue
 - C. Phloem tissue
 - D. Xylem tissue

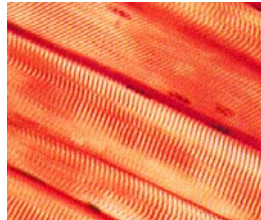
- 24. The 'solar panels' of the plant cell are found in the leaves. The structures that carry out photosynthesis, converting the sun's energy into food for the cell are called the ...
 - A. stomata
 - B. vacuoles
 - C. chloroplasts
 - D. mitochondria

- 25. Certain materials are allowed to pass through this and others are prevented from passing through. The type of cell membrane that is present in a plant and animal cell is called a ...
 - A. permeable membrane
 - B. impermeable membrane
 - C. selectively permeable membrane
 - D. selectively impermeable membrane

- 26. Osmosis is the diffusion of water through a selectively permeable membrane. This process occurs because water will move from an area of ...
 - A. low concentration to high concentration
 - B. high concentration to low concentration
 - C. low concentration to low concentration
 - D. high concentration to high concentration

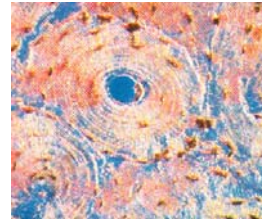
Different cells have different functions and their structure is different.

27.



- A. bone
- B. blood
- C. nerve
- D. muscle

28.



- A. bone
- B. blood
- C. nerve
- D. muscle

- 29. The liver converts this highly toxic substance into a less harmful substance – urea ...
 - A. ammonia
 - B. gastric juice
 - C. sodium chloride
 - D. hydrochloric acid

- 30. Peristalsis is caused by contractions of muscles in this structure in the digestive system ...
 - A. liver
 - B. pancreas
 - C. esophagus
 - D. trachea

- 31. To calculate the Field of View, you first need to ...
 - A. count the number of cells in the low power field of view
 - B. calculate the magnification power of the lens you are using
 - C. multiply the magnification by the number of cells in the field
 - D. determine the diameter of the field of view for the low power lens



32. Gastric Juice is composed of mucus, hydrochloric acid, water and digestive enzymes. The purpose of the mucus is ...
- A. digest proteins into smaller particles
 - B. prevent the gastric juice from digesting the stomach
 - C. assist the hydrochloric acid with digestion
 - D. prevent heartburn from occurring
33. The transportation of nutrients in plants is the role of the plant's tissue. Specialized tissue connects the roots to the leaves. The Phloem tissue transports ...
- A. water from the leaves to the air in a process called transpiration
 - B. water from the roots to the leaves
 - C. sugars, manufactured in the leaves to the rest of the plant
 - D. energy to the vacuole to utilize the food stored there
34. Each body system works with other body systems to perform its function effectively. When the body feels hot and cold on the skin, the systems working together are the ...
- A. Circulatory and Respiratory
 - B. Sensory and Integumentary
 - C. Sensory and Muscular
 - D. Integumentary and Circulatory
35. Oxygen-rich air is drawn into the lungs through tube-like passageways called bronchi. The bronchi are lined with tough connective tissue in order to ...
- A. keep the walls from collapsing
 - B. expand the surface area
 - C. extend the life of the bronchi
 - D. allow the air to pass through easily
36. Capillaries have two adaptations for exchanging gases and nutrients: they are made of specialized epithelial tissue that is only one cell thick and they ...
- A. are reinforced with a double membrane
 - B. can reverse the flow of gases when they need to
 - C. are very narrow, so the blood cells have to pass through in single file
 - D. can collapse on bacteria, preventing it from getting to the heart
37. This part of the heart is the part that receives the oxygen rich blood from the lungs and pumps it into the left ventricle ...
- A. right atrium
 - B. left atrium
 - C. right ventricle
 - D. aorta
38. Plant cells are different from animal cells because they contain ...
- A. a cell membrane
 - B. chloroplasts
 - C. vacuoles
 - D. a nucleus
39. Tapping a bent knee with a hammer results in a *knee-jerk reaction*. The feedback system is controlled by the nervous system in the body. The reflex would be the ...
- A. leg kicking
 - B. brain receiving a message
 - C. spinal cord making the pathway clear
 - D. reflex hammer hitting the knee



40. When kidneys fail to perform their function properly a machine can do the job for them, allowing them to lead relatively normal lives. The machine is called a ...
- A. Urinalysis machine
 - B. Bladder contraption
 - C. Dialysis machine
 - D. Cholesterol machine
41. In the late 1700's, Edward Jenner, an English country doctor, developed the first vaccine. The vaccine he developed made people immune to smallpox. This vaccine was ...
- A. insulin
 - B. cowpox
 - C. e-coli
 - D. rabies
42. Louis Pasteur's first great discovery was finding out what made beer and wine spoil. He discovered micro-organisms floating in spoiled batches of beer and wine. The micro-organisms were actually ...
- A. spoiled grapes
 - B. alcohol insects
 - C. yeast
 - D. anthrax
43. A disorder common in half a million children in Canada, can be triggered by many different environmental factors. This disorder is ...
- A. bronchitis
 - B. asthma
 - C. emphysema
 - D. collapsed lungs
44. There are two many ingredients in cigarettes that are harmful to your health. This drug makes you addicted because it speeds up the heart and raises the blood pressure. It is ...
- A. carbon monoxide
 - B. carbon dioxide
 - C. nicotine
 - D. mucus
45. The reason why fries and chocolate taste so good is because they contain a lot of fats. These fats are converted into a lipid, called cholesterol, which enters your arteries and can clog the flow of blood. This disorder, or condition is referred to as ...
- A. high blood pressure
 - B. arteriosclerosis
 - C. hypertension
 - D. peptic ulcer

Answer the following **Numerical Response** Questions in this booklet



Unit B - Cells and Systems

1. Match the body system with the organ that belongs to it.

- 1. Circulatory System
- 2. Respiratory System
- 3. Digestive System
- 4. Integumentary System

____ ____ ____ ____
 Lungs Skin Heart Small Intestine

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0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9

2. Living organisms have specific structures that perform life functions. Match the structure with the function from the list provided.

- 1. food-gathering structures
- 2. breathing structures
- 3. moving from place to place
- 4. protection

____ ____ ____ ____
 tentacles spiracles pseudopod spines

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1	1	1	1
2	2	2	2
3	3	3	3
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9	9	9	9

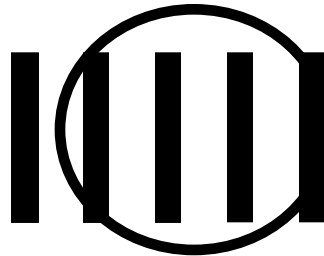
3. Body Systems interact in many ways. Identify the interacting system ...

- 1 - Respiratory
- 2 - Circulatory
- 3 - Nervous
- 4 - Digestive

____ Carries the gases which exchange in the lungs
 ____ Controls the beating of the heart
 ____ Actually physically pumps the heart
 ____ supplies the nutrients to travel throughout the body to each cell

	.	.	
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1	1	1	1
2	2	2	2
3	3	3	3
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9	9	9	9

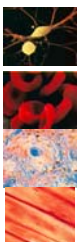
4. Calculate the field of view.



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7	7	7	7
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9	9	9	9

5. Identify the different types of cells by matching the number with the name of the cell.

- 1. blood cell
- 2. muscle cell
- 3. nerve cell
- 4. bone cell



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1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
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7	7	7	7
8	8	8	8
9	9	9	9

6. Heartbeats vary from organism to organism in the animal kingdom. The hummingbird has a heartbeat of 1000/min. A human is about 70/min. and an elephant has only 25/min.

About how many times does your heart beat in 15 seconds?

	.	.	
0	0	0	0
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9