

# Cells and Systems Unit Test

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Student Name \_\_\_\_\_

Class \_\_\_\_\_

1. Characteristics of living organisms include all of the following, EXCEPT ...
  - A. they need energy and produce wastes
  - B. they reproduce and grow
  - C. they respond to their environment and adapt
  - D. they grow and move freely in their environment
2. The basic unit of every system is a ...
  - A. nucleus
  - B. cell
  - C. tissue
  - D. organ
3. The stomach is a major organ of the digestive system. The specialized tissue that enables this organ to perform its function, to break down food, is ...
  - A. blood tissue
  - B. nerve tissue
  - C. muscle tissue
  - D. digestive tissue
4. Plants use their shoot system to make food for the plant. The stem is the organ of the plant that gives it support. The specialized cells in the stem are able to provide support because they have ...
  - A. thick walls
  - B. a large nucleus
  - C. very little water
  - D. chlorophyll
5. The Pika was described in the text as an example of a multi-cellular organism that is able to survive because of the habits and the environment of the organism, which direct the way that cells are organized. The special baglike chamber, where chewed and semi-digested food collects, enable these, to help break down the food. They are ...
  - A. specialized tissues
  - B. tiny bacteria
  - C. very strong chemicals
  - D. muscle cells
6. Anton van Leeuwenhoek was the first person to see tiny organisms, made up of only one cell, using a very simple microscope. His occupation, at the time that he discovered these tiny cells, was a ...
  - A. lens grinder
  - B. doctor
  - C. linen merchant
  - D. lenscrafter

7. The Scientist, who originally named these tiny cells, which reminded him of honeycombs, was ...
- A. **Anton van Leeuwenhoek**
  - B. **Robert Hooke**
  - C. **Matthias Schleiden**
  - D. **Theodore Schwann**
8. The cell theory was based on these two points. All living things ...
- A. **have many cells and these cells are always in motion**
  - B. **have many cells and they are too small to see**
  - C. **are made up of one or more cells and they are the basic units of structure and function**
  - D. **are able to reproduce and have many cells with specialized functions**
9. Two Canadians developed the first practical electron microscope. To test this very valuable laboratory instrument, they first looked at a ...
- A. **cork**
  - B. **razor blade**
  - C. **copper wire**
  - D. **drop of pond water**
10. To calculate the Field of View, you first need to ...
- A. **determine the diameter of the field of view for the low power lens**
  - B. **calculate the magnification power of the lens you are using**
  - C. **count the number of cells in the low power field of view**
  - D. **multiply the magnification by the number of cells in the field**
11. Many single-celled (unicellular) organisms have different ways of moving, obtaining food and carrying out other essential functions for living. Structures, that unicellular organisms, such as a euglena, or a chlamydomonas have for movement are called ...
- A. **flagella**
  - B. **cytoplasm**
  - C. **stentor**
  - D. **diatoms**
12. In the sample of pond water you may have studied, the amoeba moves by changing its shape. It pushes its cytoplasm against one part of its cell membrane, causing a bulge. This bulge is called a ...
- A. **pseudomym**
  - B. **pseudoplasm**
  - C. **false front**
  - D. **false foot**
13. A typical plant cell viewed under a compound light microscope reveals the many different parts that have different functions. The part of the cell which surrounds and protects the contents of the cell is called the ...
- A. **nucleus**
  - B. **cytoplasm**
  - C. **cell membrane**
  - D. **vacuole**

14. The chloroplasts of a plant cell have a very specialized function. They are the structures where ...
- A. food is transported to other parts of the cell
  - B. photosynthesis takes place
  - C. food is stored by the cell until it is needed
  - D. energy for reproduction is released
15. Cells are various sizes and shapes. They are normally measured in units called ...
- A. nanometers
  - B. micrometer
  - C. minimeters
  - D. macrometer
16. Certain materials are allowed to pass through it 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. selectively impermeable membrane
  - B. selectively permeable membrane
  - C. permeable membrane
  - D. impermeable membrane
17. A process which enables substances to spread out, throughout a solution, eventually becoming evenly distributed in the solution, is called ...
- A. distillation
  - B. dissolving
  - C. desalination
  - D. diffusion
18. Whenever nutrients are moved in and out of cells, the process takes place through the cell membrane. This process occurs because of different ...
- A. types of nutrients present
  - B. concentrations present
  - C. types of membranes
  - D. sizes of openings in the membrane
19. 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
20. 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
21. Specialized cells are specialized for particular tasks. These types of cells are specialized to provide structure and support. They are called ...
- A. nerve cells
  - B. muscle cells
  - C. blood cells
  - D. bone cells

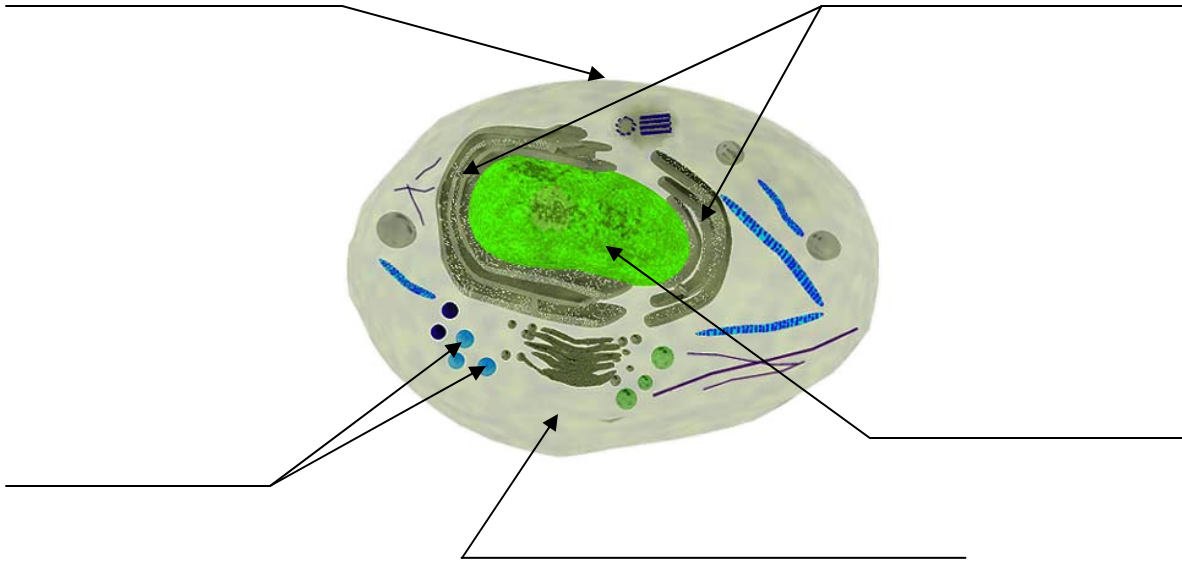
22. There are many advantages to being a multi-cellular organism. The following are examples of some of these advantages, EXCEPT for one, which is that they ...
- A. **have a specialized environment**
  - B. **can grow to be very large**
  - C. **can obtain food from many sources**
  - D. **have complex bodies**
23. The organization of cells follows this pattern -
- A. **cells form organs, tissues, and systems**
  - B. **cells form tissues, organs, and systems**
  - C. **cells form systems, organs, and tissues**
  - D. **cells form organs, systems, and tissues**
24. The stomach is an organ which is made up of different tissues. The connective tissue, in the stomach, is the specialized tissue that enables the stomach to ...
- A. **hold its shape**
  - B. **move the contents around**
  - C. **line the walls of the stomach**
  - D. **co-ordinate all of the stomach's activities**
25. Organs work together to make a system or network that performs a specialized function. Plants have only two main systems. They are the ...
- A. **stems and the leaves**
  - B. **roots and the leaves**
  - C. **shoot and the roots**
  - D. **leaves and the shoot**
26. 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. **integumentary system**
  - C. **circulatory system**
  - D. **respiratory system**
27. Each body system works with other body systems to perform its function effectively. When different gases are exchanged in the lungs and then transported throughout the body, the systems working together are the ...
- A. **respiratory and integumentary**
  - B. **respiratory and digestive**
  - C. **respiratory and circulatory**
  - D. **respiratory and sensory**
28. The excretory system is connected to other systems, such as the circulatory system and the digestive system. The excretory system's primary function is to ...
- A. **get rid of wastes**
  - B. **get nutrients to the cells**
  - C. **exchange gases**
  - D. **to protect the other systems**
29. Sensory awareness is important for all living things, so they can respond and adapt to their environment. When your muscles 'quiver' because you are cold, they generate ...
- A. **wastes**
  - B. **heat**
  - C. **blood flow**
  - D. **a nutrient imbalance**

30. A knee-jerk reaction is a simple example of a feedback system that is controlled by the nervous system in the body. A sharp tap of the reflex hammer to the knee sends a signal, up the spinal cord, to the brain, where the brain interprets and then sends a message to the leg to react. The stimulus in this example is the ...
- A. reflex hammer
  - B. brain
  - C. spinal cord
  - D. leg
31. Blood is the body's transportation system. The blood is composed of different types of cells which have a very specialized function. The type of blood cells that comprise less than 1% of the blood's volume and defends the body against infection and disease are the ...
- A. red blood cells
  - B. white blood cells
  - C. plasma cells
  - D. platelets
32. Disorders of the circulatory system are the leading cause of death in North America. One of the most common is hypertension, which is ...
- A. damage to the heart tissue
  - B. heart attacks or strokes
  - C. high blood pressure
  - D. waste remaining in the blood
33. The digestive system can also malfunction, causing severe repercussions for an individual and even death. These disorders are caused by poor lifestyle habits or disease. One such disorder may lead to colon cancer. It is caused by ...
- A. over exertion
  - B. low fiber diet
  - C. high fiber diet
  - D. excessive use of aspirin
34. The respiratory system can also malfunction due to poor lifestyle choices. When the cilia (which remove airborne particles when they beat continuously) are clogged by mucus they cannot perform their function properly and over time, can become inflamed. This condition (which can be treated) is called ...
- A. bronchitis
  - B. ciliatitis
  - C. emphysema
  - D. lung cancer
35. Your body needs to have the right conditions under which it can perform its functions properly. To maintain healthy organs and systems, the essential needs are ...
- A. clean air, water, nutritious food, exercise and sleep
  - B. dairy products, fruits and vegetables, meat and grains
  - C. oxygen, minerals, vitamins, relaxation and medicine
  - D. fats, sugars, carbohydrates, proteins and salt

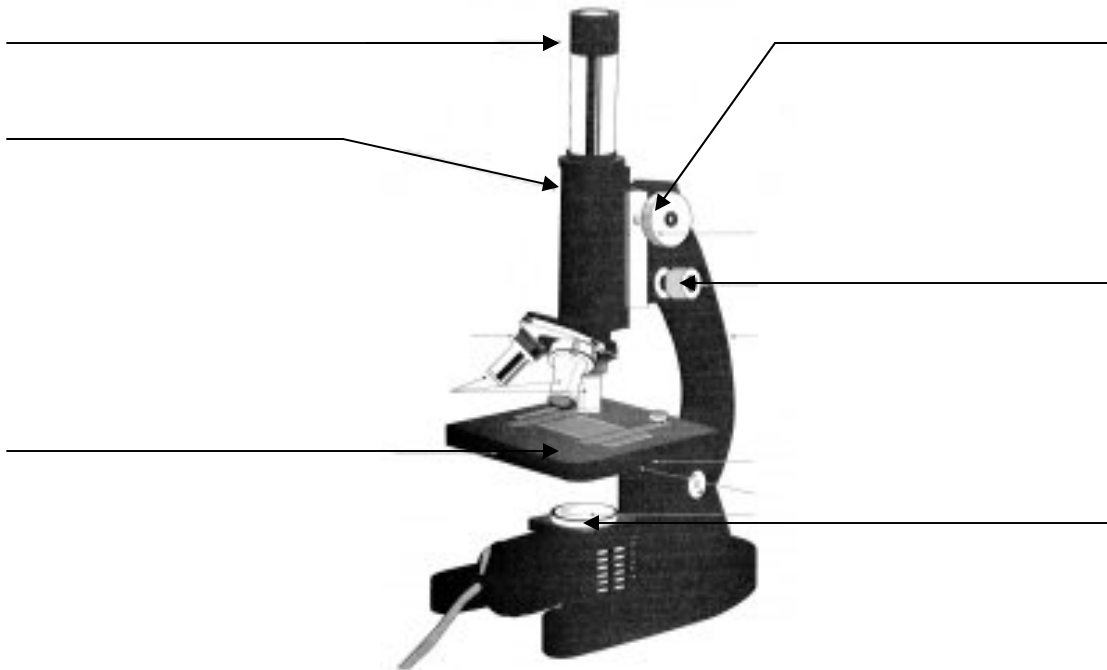
The last part of this Test is to be completed in this booklet.

The diagrams, which follow, are to be labeled, as directed.

36 – 40 ( 5 Marks )  
Label the parts of the **Animal Cell**



41 – 45 ( 5 Marks )  
Label the parts of the **Microscope**

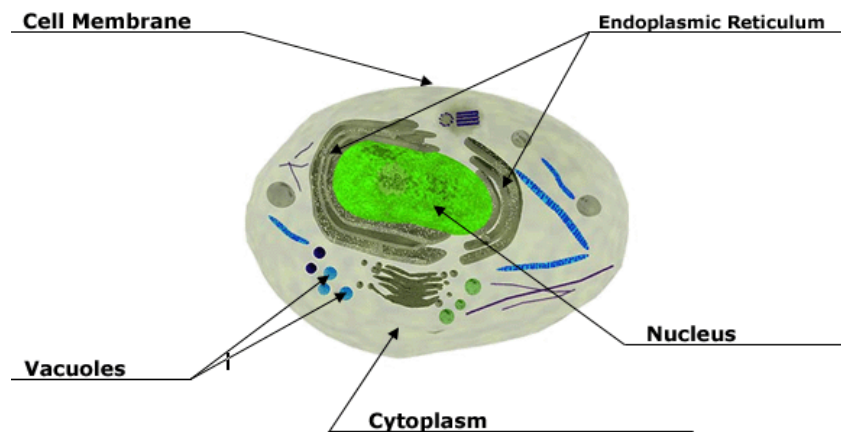


## Cells and Systems Unit Test ... Answer Key

1	D	11	A	21	D	31	B
2	B	12	D	22	A	32	C
3	C	13	C	23	B	33	B
4	A	14	B	24	B	34	A
5	B	15	B	25	C	35	A
6	C	16	B	26	C		
7	B	17	D	27	C		
8	C	18	B	28	A		
9	B	19	B	29	B		
10	A	20	B	30	A		

**36-40** (5 Marks)

Label the parts of the **Animal Cell**



**41-45** (5 Marks)

Label the parts of the **Microscope**

