

5. While viewing an object under medium power, you find that the object is larger than the field of view. What should you do to see the entire object?

- (a) increase the magnification by turning to a lower power
- (b) increase the magnification by turning to a higher power
- (c) decrease the magnification by turning to a higher power
- (d) decrease the magnification by turning to a lower power

4. Who was one of the first people to view organisms made of one cell?

- (a) Theodore Schwann
- (b) Matthias Schleiden
- (c) Anton van Leeuwenhoek
- (d) Rudolf Virchow

3. What do groups of similar cells form?

- (a) a system
- (b) an organ
- (c) a tissue
- (d) an organism

2. What is a cell?

- (a) a complex living system
- (b) a part of all living things
- (c) made up of smaller organelles
- (d) all of the above

1. If a dog barks when the door bell rings, what characteristic of living organisms does this show?

- (a) living organisms need energy
- (b) living organisms respond to their environment
- (c) living organisms grow
- (d) living organisms reproduce

Carefully read the instructions before answering each set of questions. Circle the letter for the best answer.

### Multiple Choice

### What to Do

**Goal** • Assess your understanding of terms and concepts in Unit 2.

*Cells = Systems*

**UNIT 2****ASSESSMENT****Unit 2 Test** (continued)**BLM 2-32**

6. What could you do to observe the organelles of an onion cell better?
- (a) add a drop of salt water
  - (b) add a drop of sugar water
  - (c) add a drop of iodine
  - (d) remove the excess water
7. If a slide is moved up and to the left, which way will the image move?
- (a) down and to the right
  - (b) down and to the left
  - (c) up and to the right
  - (d) up and to the left
8. Plants do not have skeletons, yet they grow very large. What structure allows a plant to maintain its shape?
- (a) cell membrane
  - (b) cell wall
  - (c) vacuole
  - (d) cytoplasm
9. What does a cell need to produce its own food through photosynthesis?
- (a) chloroplasts
  - (b) a nucleus
  - (c) vacuoles
  - (d) a cell wall
10. What do you use to focus under high power on a microscope?
- (a) the coarse adjustment knob
  - (b) the revolving nose piece
  - (c) the diaphragm
  - (d) the fine adjustment knob
11. Water enters the roots through the semi-permeable membrane of the root hairs. What is this process called?
- (a) osmosis
  - (b) transpiration
  - (c) inhalation
  - (d) evaporation

12. Glucose (sugar) is produced in a plant's leaves. What transports glucose to the rest of the plant?

- (a) xylem tissue
- (b) phloem tissue
- (c) connective tissue
- (d) guard cells

13. In which system of a plant would you find flowers, fruits, and seeds?

- (a) root system
- (b) shoot system
- (c) circulatory system
- (d) reproductive system

14. What happens if leaves are cut from a plant?

- (a) the rate of transpiration increases
- (b) the rate of transpiration decreases
- (c) the rate of osmosis increases
- (d) the rate of osmosis decreases

15. What do different types of tissues working together form?

- (a) a system
- (b) an organism
- (c) an organ
- (d) an organization

16. Where are oxygen and carbon dioxide exchanged in the lungs?

- (a) in the muscle tissue
- (b) in the epithelial tissue
- (c) in the villi
- (d) in the alveoli

17. Where are the digestive system and the circulatory system connected?

- (a) at the alveoli
- (b) at the villi
- (c) at the arteries
- (d) at the pancreas

18. How does nicotine harm the circulatory system?

- (a) expands the blood vessels causing an increase in both heart rate and blood pressure
- (b) expands the blood vessels causing a decrease in heart rate and an increase in blood pressure
- (c) constricts the blood vessels causing an increase in both heart rate and blood pressure
- (d) constricts the blood vessels causing a decrease in heart rate and an increase in blood pressure

**UNIT 2**  
**ASSESSMENT**
**Unit 2 Test** (continued)

**BLM 2-32**

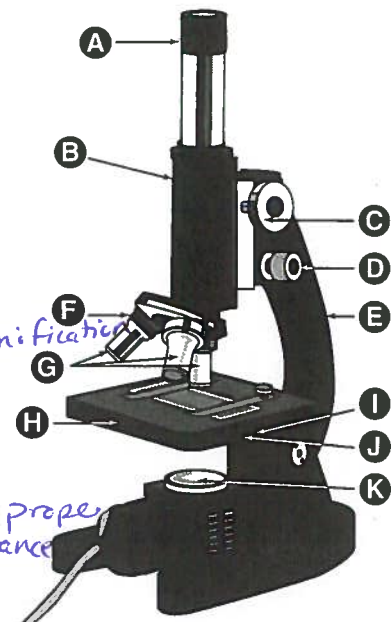
19. Where are the respiratory and circulatory systems connected ?
- at the alveoli and capillaries
  - at the alveoli and villi
  - at the villi and capillaries
  - at the villi and arteries
20. When the human body generates excess heat, where does it lose most of this heat from?
- the lungs
  - the heart
  - the skin
  - breathing

**Diagram**

21. Use the diagram of the microscope to complete the following chart.

**Microscope Parts and Functions**

Name	Letter	Function
objective lenses	G	magnifies objects at different powers of magnification
arm	E	connects the base and the tube
tube	B	holds the eyepiece and objective distance at the proper distance
Revolving Nose piece	F	allows for the changing of lenses

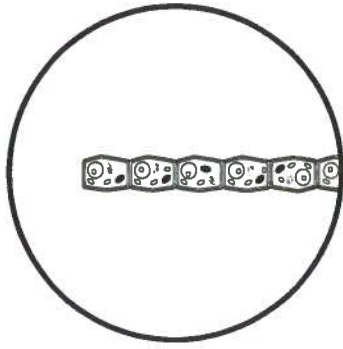

**Short Answer**

Answer the following questions in the space provided.

22. What are two advantages to being multicellular?

Multicellular organisms can adapt to a wider range of environments and they are able to grow larger.

23. This diagram shows a group of cells viewed through a microscope. If the field of view measures 1.5 mm, how long is one cell. Show your calculations and round your answer to 1 decimal place.



$\frac{1.5\text{mm}}{\approx 7\text{cells}} \approx 0.21\text{mm}$

24. Diet can affect many body systems. Choose one example of a poor diet and explain what effect the poor diet has on one particular system.

~~High salt diet may lead to high blood pressure and the risk of stroke.~~

25. You are walking home alone after dark and you don't hear a friend approaching from behind. Your friend taps you on the shoulder and scares you.

(a) How would your body respond?

Your heart rate would increase and/or your breathing rate would increase.

(b) What body system(s) are involved in this response?

Nervous system and respiratory system.

26. You want to conduct an experiment to determine the effect of different types of exercise on heart rate.

(a) What would the manipulated variable in the experiment be?  
Type of exercise.

(b) What would the responding variable be?  
Heart Rate (pulse)

(c) List two variables that would need to be controlled. Person doing the exercise, length of time exercising.

