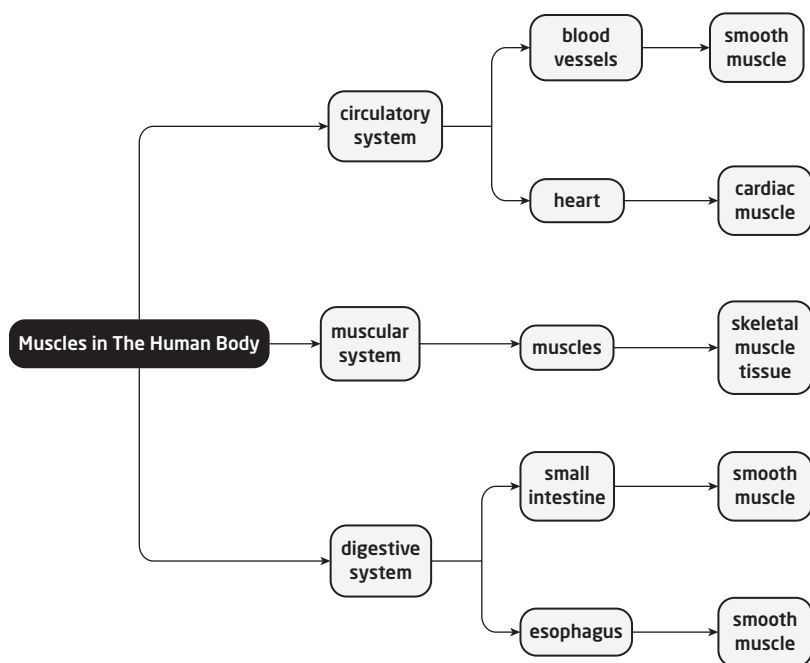


## Chapter 3 Review (Student textbook pages 122 and 123)

Please also see **BLM 3-11 Chapter 3 Review (Alternative Format)**.

### Make Your Own Summary



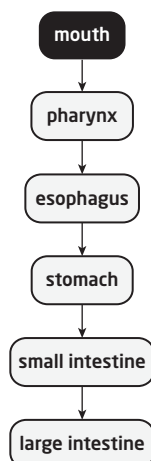
### Reviewing Key Terms

1. c
2. f
3. b
4. e
5. a
6. g
7. d

### Knowledge and Understanding

8. cells, tissues, organs, organ systems
9. Scientists are working on ways to induce adult stem cells to become pluripotent.

10.



11. SARS (respiratory infections)
12. fatigue, shortness of breath, possibly increased heart rate
13. Blood pressure is highest in the arteries close to the pumping heart.
14. arteries: carry blood away from heart; veins: carry blood to heart; capillaries: bring blood into close contact with tissues
15. a. 2  
b. rest of body  
c. lungs  
d. oxygenated
16. Increased surface area provides more surfaces for absorption or gas exchange.
17. circulatory and respiratory systems
18. Amphibians have closed circulatory systems just as humans do, but they have three-chambered hearts rather than four-chambered hearts. Frog hearts have two atria but only one ventricle. Humans have two ventricles.
19. white blood cells (phagocytes)
20. Vaccination causes the body to develop antibodies towards a specific antigen.
21. The main purpose of cancer screening is prevention.

### Thinking and Investigating

- 22.** Differences in structure help cells perform their functions. Nerve cells have long projects to allow them to communicate and send messages to other cells. The structure of red blood cells allows them to travel through capillaries and carry oxygen.
- 23.** Muscle tissues might get bigger because the muscle will be challenged to pump harder.
- 24. a.** excretory
- b.** The blood vessels are large because they bring the blood to the kidneys for filtering and filtered blood then leaves the kidneys.

### Communication

- 25.** Answers will vary. Ensure students support their opinions with knowledge they have gained about stem cells in Chapter 3.
- 26.** Example: There are medical imaging technologies that provide more detailed views and information than X rays. The hospital may benefit from having one of these.
- 27.** Organ systems do not work in isolation so heart disease could affect organs in systems outside the circulatory system. For example, heart disease may affect the excretory system or respiratory system because these systems work closely with the circulatory system.

### Application

- 28.** The gall bladder stores biles, which the body uses to break up fat. The woman should probably follow a low-fat diet.
- 29. a.** While sleeping, breathing rate would decrease because there would be less of a demand for oxygen in the body's tissues.
- b.** While exercising, breathing rate would increase because there would be more of a demand for oxygen.
- c.** While on top of a mountain, breathing rate would increase to compensate for the lower concentration of oxygen in the air.
- 30.** Babies and children might contract infectious diseases more frequently than teenagers because they have not been exposed to as many pathogens and therefore have not developed antibodies for infectious agents that teenagers may have developed antibodies for.