

Chapter 15 Bones, Muscles, and Skin

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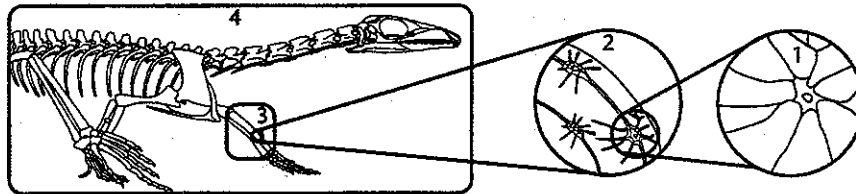
SECTION 15-1

REVIEW AND REINFORCE

Body Organization and Homeostasis

◆ Understanding Main Ideas

The illustration below shows the levels of organization in a reptile. The levels are numbered 1–4, with 4 being the highest level and 1 being the lowest level. Match the following items with the number that represents the lowest appropriate level of organization in the illustration.



1. tissue _____
2. an object consisting of several different tissues _____
3. the smallest unit of the body _____
4. group of organs that operate as a system _____

◆ Building Vocabulary Skills

Fill in the blank to complete each statement.

5. _____ is the reaction of the body and mind to threatening, challenging, or disturbing events.
6. _____ is the tendency of the body to maintain constant internal conditions in spite of changes in the external environment.
7. _____ tissue makes up organs that are able to contract or shorten. _____ tissue makes up the organs that send messages to control the body.
8. The inside of the digestive system is lined with _____ tissue.
9. The kidney is a(n) _____. The excretory system is a(n) _____.
10. A(n) _____ is the basic unit of structure and function in a living thing.
11. _____ tissue provides support for your body and connects all its parts.

SECTION 15-2

REVIEW AND REINFORCE

The Skeletal System

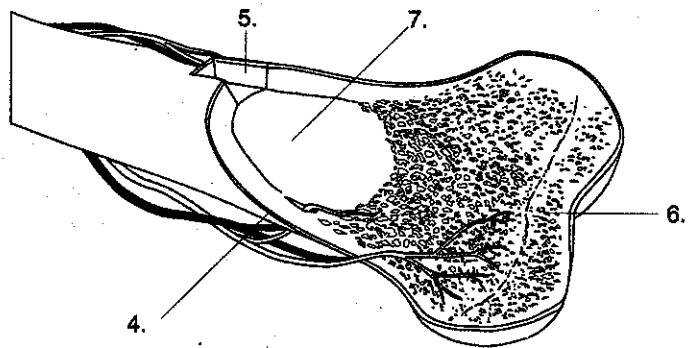
◆ Understanding Main Ideas

Answer the following on a separate sheet of paper.

1. Name the five functions of the skeleton.
2. What lifestyle choices help keep bones healthy and strong?
3. What do movable joints enable the body to do? What are the four types of movable joints?

Label the numbered parts of the femur below in the spaces provided.

4. _____
5. _____
6. _____
7. _____



◆ Building Vocabulary

Fill in the blank to complete each statement.

8. A place in the body where two bones come together is a(n) _____.
9. _____ is a condition in which the body's bones become weak and break easily.
10. A(n) _____ is one of the 26 small bones that make up your backbone.
11. The tip of your nose is able to move from side to side because it is made up of a connective tissue that is more flexible than bone. This type of tissue is called _____.
12. A(n) _____ is the strong connective tissue that holds the bones together in a movable joint.

SECTION 15-3

REVIEW AND REINFORCE

The Muscular System

◆ Understanding Main Ideas

Complete the table below to describe the characteristics of each type of muscle. Write yes or no next to each number.

Muscle Types	Voluntary	Involuntary	Reacts quickly	Tires quickly
Skeletal	1.	2.	3.	4.
Smooth	5.	6.	7.	8.
Cardiac	9.	10.	11.	12.

Answer the following questions in the spaces provided.

13. Why do skeletal muscles have to work in pairs?

14. How can you help prevent muscle injuries?

◆ Building Vocabulary

Answer the following questions in the spaces provided.

15. What types of actions use smooth muscles? What type of muscle is smooth muscle?

16. What types of actions use skeletal muscles? What type of muscle is skeletal muscle?

17. How is cardiac muscle similar to both smooth muscle and skeletal muscle?

SECTION 15-4

REVIEW AND REINFORCE

The Skin

◆ Understanding Main Ideas

Answer the following questions in the spaces provided.

1. List the functions of the skin.

2. How do the dead cells of the epidermis help the body?

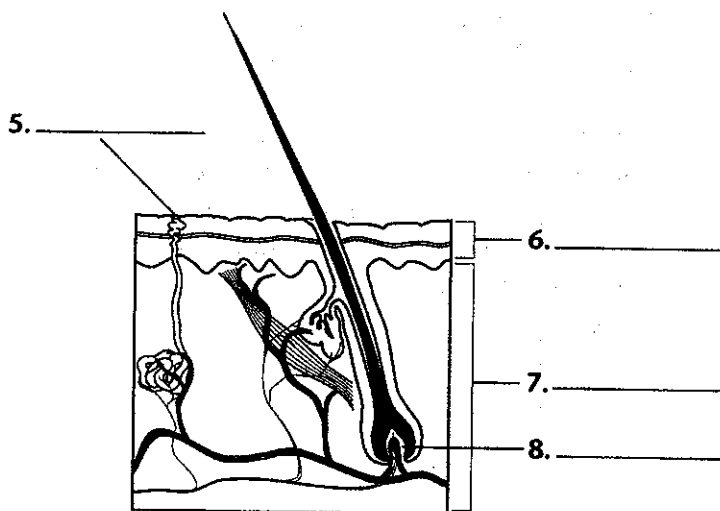
3. What structures does the dermis contain?

4. How can you help to keep your skin healthy?

◆ Building Vocabulary

Use the terms listed below to label the following diagram.

pore epidermis hair follicle dermis



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Name: _____

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Choose the letter of the correct answer.

1. The bones that form the backbone are called
[A] vertebrae. [B] tibia. [C] carpals. [D] metatarsals.
2. The process by which an organism's internal environment is kept stable in spite of changes in the external environment is called
[A] homeostasis. [B] digestion. [C] respiration. [D] healing.
3. Nerves and blood vessels in the skin are located in the
[A] dermis. [B] pores. [C] canals. [D] epidermis.
4. By eating dairy products, you are helping to maintain healthy bones because dairy products
[A] help form the canals in bone. [B] are good sources of calcium.
[C] enable nerve tissue to grow in bone. [D] stimulate the growth of new bone.
5. Which type of joint allows the greatest range of movement?
[A] gliding joint [B] ball-and-socket joint [C] pivot joint [D] hinge joint
6. What kind of motion is possible with a hinge joint?
[A] side to side [B] sliding [C] rotating [D] backward or forward
7. What structure directs the activities of a cell?
[A] cytoplasm [B] nucleus [C] cell membrane [D] cartilage
8. What is the best way to prevent osteoporosis?
[A] Get plenty of bedrest.
[B] Reduce exercise and add phosphorus to your diet.
[C] Eat more green vegetables and red meats.
[D] Exercise regularly and include calcium in your diet.
9. The bones of the skeleton store minerals such as phosphorus and
[A] sodium. [B] iron. [C] potassium. [D] calcium.

Choose the letter of the correct answer.

10. How does the skin help regulate body temperature?
[A] by enabling excess heat to escape from the body
[B] by blocking information about the environment
[C] by allowing body temperature to change when the weather becomes warmer or cooler
[D] by removing wastes from the body
11. Exercise is important for muscles because it
[A] helps maintain strength and flexibility.
[B] gives muscles more energy.
[C] prevents muscle injuries.
[D] prevents muscles from becoming tired.

Fill in the word or phrase that best completes the statement(s).

12. The type of involuntary muscle that moves food through the digestive tract is called _____ muscle.
13. Washing your skin can help prevent a bacterial infection of the skin called _____.
14. Skin cells produce _____, which helps the digestive system absorb calcium.
15. Skeletal muscles work by _____, or becoming shorter and thicker.
16. A(n) _____ in a muscle occurs when the muscle contracts strongly and stays contracted.
17. The shape of the human body is different from the shape of a turtle's body because the shapes of the human and the turtle _____ are different.

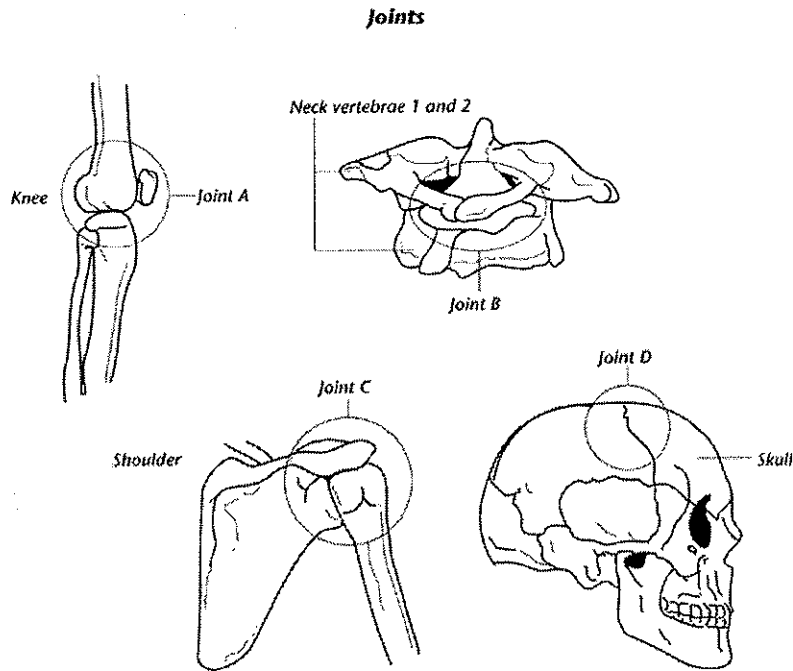
If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.

18. Exercise helps to keep muscles healthy because exercise makes muscles thicker.
19. The muscles that are under your control are called voluntary muscles.
20. The lowest level of organization in the human body is the organ system.

If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.

21. The knee is an example of a ball-and-socket joint.
22. A well-balanced diet that includes the mineral calcium can help prevent osteoporosis.

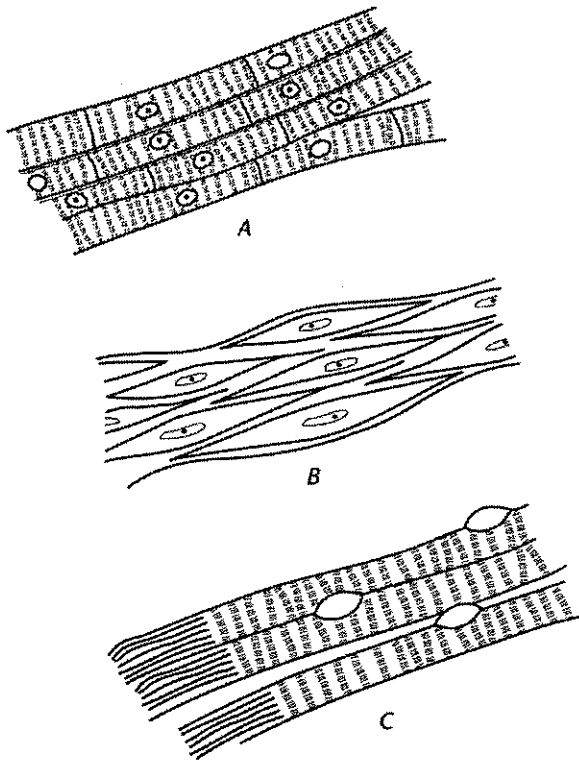
Use the diagrams to answer the question(s).



23. Which joints are movable? Which are immovable?
24. Which joint provides the greatest range of movement?

Use the diagrams to answer the question(s).

Types of Muscle Tissue



25. Which type of muscle is indicated by C?
26. Where in the body is muscle type A (cardiac muscle) found?
27. Tell whether each type of muscle tissue is voluntary or involuntary.

Write an answer to the following question(s).

28. List and describe the functions of the four basic types of tissue in the human body.
29. Are bones dead or alive? Explain your answer.
30. Describe how skin helps maintain body temperature if a person becomes too warm.