

G7 ELITE SCIENCE

Ch. 11: Structure and Movement Sect 1: The Skeletal System	Ch. 12: Digestion and Excretion Sect 1: The Digestive System	Ch. 13: Respiration and Circulation Sect 3: Blood	Ch. 13: Respiration and Circulation Sect 4: The Lymphatic System
<ul style="list-style-type: none"> - explain the structure of bones - explain the formation of bones - define joints and ligaments and identify the types of joints with examples 	<ul style="list-style-type: none"> - explain the functions of the digestive system - describe the types of digestion 	<ul style="list-style-type: none"> - explain the functions of blood - describe the parts of blood - describe the types of blood 	<ul style="list-style-type: none"> - explain the functions of the lymphatic system - explain how parts of the lymphatic system work together and interact with other systems

Chapter-11-Structure and Movement

Section-1- The Skeletal System

1. Which is NOT a part of the periosteum?

- A. blood vessels
- B. bone cells
- C. bone marrow
- D. nerves

2. What is the arrow pointing to in the figure below?

- A. cartilage
- B. ligament
- C. periosteum
- D. tendon



3. Which is NOT produced or stored inside bones?

- A. calcium
- B. fat
- C. melanin
- D. red blood cells

4. Which organ is NOT protected by the skeletal system?

- A. brain
- B. heart
- C. lungs
- D. skin

5. Which prevents bones from rubbing against each other?

- A. cartilage
- B. compact bone
- C. ligament
- D. spongy bone

6. How many bones does the human body have?

- A. about 500
- B. more than 200
- C. 2,000
- D. about 150

7. What are bones attached to that enable them to move?

- A. organs
- B. cartilage
- C. marrow
- D. muscles

8. Where are red blood cells are made?

- A. spongy bone tissue
- B. yellow bone marrow
- C. compact bone tissue
- D. red bone marrow

9. What kind of bone tissue contains small holes that make it less dense than compact bone tissue?

- A. cartilage
- B. red bone marrow
- C. spongy bone tissue
- D. periosteum

10. Before birth the human skeleton is made mostly of which of these?

- A. bone
- B. muscle
- C. marrow
- D. cartilage

17. Compare spongy bone and compact bone.

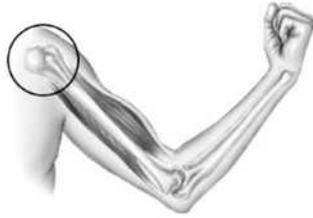
Compact bone is denser than spongy bone. Spongy bone contains red bone marrow that produces blood cells.

18. How do ligaments and tendons function in this type of joint?

Tendons connect muscles to bones; they work with muscles and keep joints from moving out of place while a person is in motion. Ligaments connect bones to bones; they stretch when a joint move.

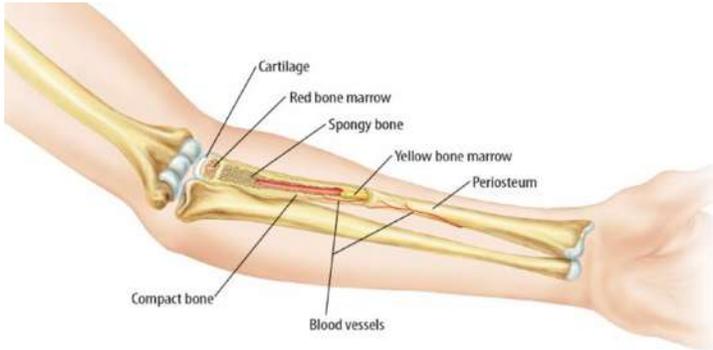


19. What joint type is circled in the diagram? What other area of the body contains the same kind of joint?



The figure shows a ball-and-socket joint in the shoulder. The joints in the hips are also ball-and-socket joints

20. Label the following diagram



21. Explain the formation of bones.

Before you were born, your skeleton was made mostly of cartilage. During your infancy and childhood, the cartilage was gradually replaced by bone. The long bones in children and young teens have regions of bone growth that produce new bone cells. These regions are called growth plates. A growth plate produces cartilage that is then replaced by bone tissue. A growth plate is the weakest part of an adolescent bone. Growth continues until adulthood, when most of the cartilage has turned to bone.

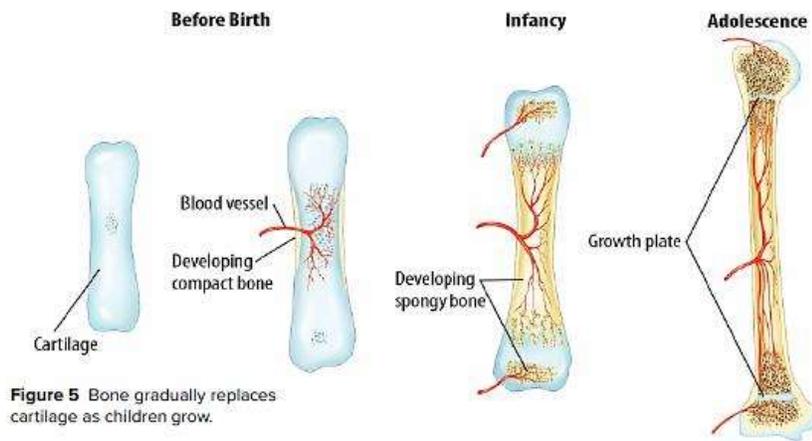


Figure 5 Bone gradually replaces cartilage as children grow.

22. Define joints and ligaments.

A joint is where two or more bones meet. Joints provide flexibility and enable the skeleton to move.

Bones are connected to other bones by tissues called ligaments

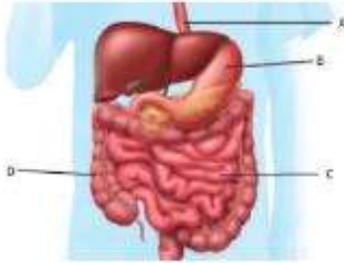
Chapter-12- Digestion and Excretion

Section-1- The Digestive System

1. Where is the first-place digestion occurs?

- A. mouth
- B. stomach
- C. large intestine
- D. small intestine

2. Look at the diagram below. Where does most absorption of nutrients occur?



- A. A
- B. B
- C. C
- D. D

3. What is the correct order for how food is processed in the digestive system?

- A. absorption, digestion, ingestion, elimination
- B. elimination, ingestion, absorption, digestion
- C. ingestion, absorption, digestion, elimination
- D. ingestion, digestion, absorption, elimination

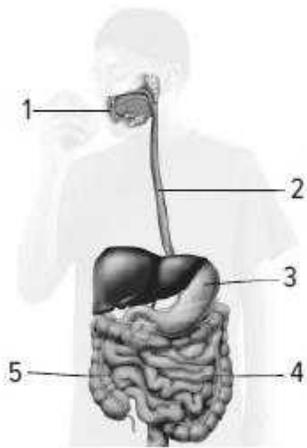
4. What organ produces a substance that neutralizes acid from the stomach?

- A. esophagus
- B. gallbladder
- C. liver
- D. pancreas

5. What fluid produced in the mouth contains digestive enzymes?

- A. bile
- B. blood
- C. chyme
- D. saliva

Use the diagram below to answer questions 6 and 7.



6. In which part of the system pictured above does chemical digestion begin?
- A 1
 - B 2
 - C 3
 - D 4
7. In the diagram above, from which organ are nutrients absorbed into the bloodstream?
- A 2
 - B 3
 - C 4
 - D 5
8. Where does mechanical digestion of food begin?
- A. the salivary glands
 - B. the esophagus
 - C. the stomach
 - D. the mouth
9. What are the fingerlike projections that cover the folds of the small intestine?
- A. villi
 - B. large intestines
 - C. enzymes
 - D. pepsin
10. Which of these is the muscular tube that connects the mouth to the stomach?
- A. salivary gland
 - B. esophagus
 - C. stomach
 - D. small intestine
11. Chemical reactions break pieces of food down into small molecules during which process?

- A. mechanical digestion
- B. peristalsis
- C. urination
- D. chemical digestion

12. Which term describes the mechanical and chemical breakdown of food into particles and molecules your body can use?

- A. chemical reaction
- B. respiration
- C. digestion
- D. circulation

13. What type of proteins help break down larger molecules into smaller molecules?

- A. sugars
- B. carbohydrates
- C. fats
- D. enzymes

14. What is the function of the small intestine?

Small intestine chemically digests food and absorbs nutrients.

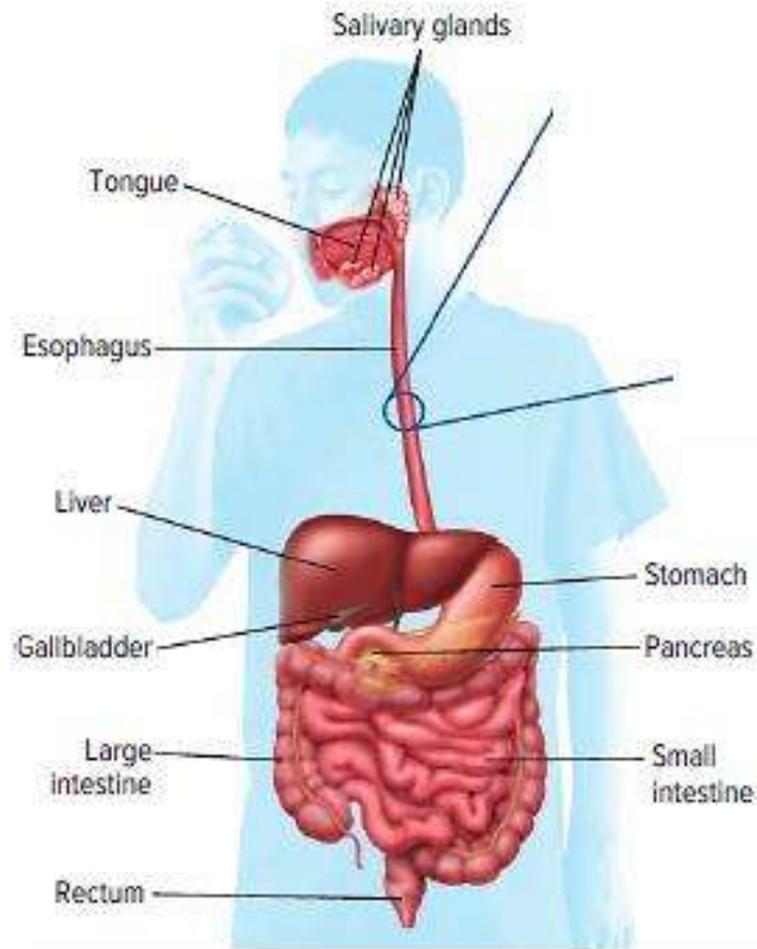
15. Explain the functions of the digestive system.

The digestive system processes the food you eat. Food goes through four steps within the body: ingestion (eating and swallowing), digestion (the breakdown of food into smaller parts), the absorption of nutrients, and the elimination of undigested food.

16. What are the different types of digestion?

Mechanical digestion and chemical digestion

17. Label the following diagram showing the human digestive system.



Chapter-13- Respiration and Circulation

Section-3- The Blood

1. The yellowish liquid part of blood.

- A. Platelets C. Plasma
B. Red blood cells D. White blood cells

2. Which part of the blood carries dissolved molecules such as glucose and salt?

- A. plasma C. red blood cells
B. platelets D. white blood cells

3. Which part of the blood helps defend the body from a virus infection?

- A. plasma C. red blood cells
B. platelets D. white blood cells

4. What is the primary role of hemoglobin in blood?

- A. attract platelets C. carry oxygen
B. blood typing D. fight parasites

5. A person with type AB blood regularly donates blood as a community service.

Determine the blood type(s) that can receive this blood in a transfusion.

- A. Only A C. Only B
B. Only AB D. A or B or O or AB

6. Which blood component stops the bleeding after a cut?

- A. plasma C. red blood cells
B. platelets D. white blood cells

7. Which blood type can be donated to all humans?

- A. type A C. type B
B. type AB D. type O

8. Protein found on red blood cells is a chemical marker called

- A. Rh factor
- B. Platelets
- C. plasma
- D. hemoglobin

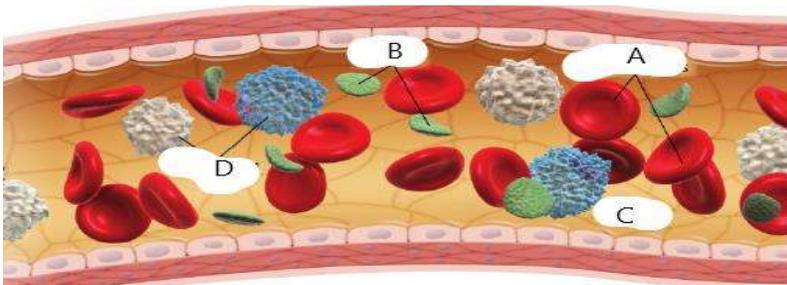
9. Red blood cells contain----- iron-rich protein molecules which helps it to bind oxygen on it

- A. Rh factor
- B. Platelets
- C. plasma
- D. hemoglobin

10. The following is NOT a function of blood

- A. Transportation
- B. protection
- C. temperature regulation
- D. movement

11. Label the parts of blood and explain its functions



A – red blood cells, Function- Carry oxygen

B -Platelets, Function-Promote clotting

C-Plasma Function -helps to thin blood, transport blood cells and dissolved substances.

D-White blood cells Function- Fight against infections.

12. Distinguish between plasma and platelets.

Plasma is the liquid part of the blood that transport blood cells. Platelets are pieces of cells that helps blood to clot

13. Identify the blood type is shown below? What blood type(s) can a person with this blood type receives in a transfusion

A.



Type O, a person with this blood type can receive only type O in a transfusion

B.



Type AB, a person with this blood type can receive from type A or B or AB or O in a transfusion

14. Identify the blood type is shown below? What blood type(s) can a person with this blood type can donate.

A.



Type O , a person with this blood type can donate to type A or B or AB or O

B.



Type A , a person with this blood type can donate to type A or AB

15. What kinds of antigens are found in AB+ blood?

A, B and Rh antigens

Chapter-13- Respiration and Circulation

Section-3- The Lymphatic System

1. About 10 percent of the tissue fluid is absorbed by the lymph vessels and is called

- A. Lymph
- B. bone marrow
- C. lymph nodes
- D. Thymus

2. ----- absorbs and transport the lymph

- A. Lymph nodes
- B. bone marrow
- C. lymph vessel
- D. Thymus

3. The lymphatic system cleans fluid for which system?

- A. circulatory
- B. immune
- C. digestive
- D. respiratory

4. ----- is the spongy center of bones where red and white blood cells, including lymphocytes, form

- A. Lymph
- B. bone marrow
- C. lymph nodes
- D. Thymus

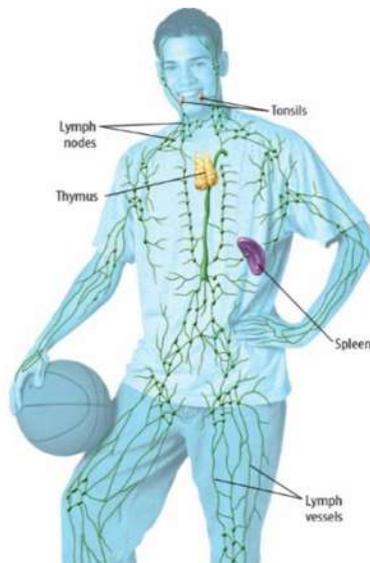
5. Which body system filters infection-causing organisms from tissue fluids?

- A. circulatory
- B. immune
- C. lymphatic
- D. respiratory

6. Which contracts to move lymph through the lymphatic system?

- A heart
- B stomach
- C. body muscle
- D heart muscle

7. Identify the structures of the lymphatic system shown in the figure below.



8. Name the Clusters of small, spongy structures that filter particles from lymph.

Lymph nodes

9. Distinguish between the spleen and the thymus.

The **spleen** is an organ of the lymphatic system that recycles worn-out red blood cells and produces and stores lymphocytes. The **thymus** is the organ of the lymphatic system in which T cells complete their development

10. Describe the function of the lymph nodes.

They filter lymph

11. Distinguish between lymph and tissue fluid.

Tissue fluid: it leaks from capillaries, cells absorb nutrients from it and release waste into it, 90 percent reabsorbed by capillaries.

Lymph: About 10 percent of the tissue fluid is absorbed by the lymph vessels and is called lymph.