Human Anatomy and Body Systems

Use this key to check answers and read the explanations.

1. Which organ pumps blood around the body?
   - A. Heart
   - B. Liver
   - C. Stomach
   - D. Thyroid

   Correct answer: A. Heart
   The heart’s muscular chambers contract to push blood through the circulatory system.

2. Which kind of tissue usually attaches a skeletal muscle to a bone?
   - A. Articular cartilage
   - B. Ligament
   - C. Tendon
   - D. Bone marrow

   Correct answer: C. Tendon
   A tendon carries the pull of a muscle to the bone it moves. A ligament typically connects bone to bone.

3. Where would you place a tag marked femur on a full skeleton?
   - A. Forearm
   - B. Thigh
   - C. Lower jaw
   - D. Lower leg

   Correct answer: B. Thigh
   The femur is the thigh bone. Its upper end meets the pelvis at the hip and its lower end helps form the knee.

4. Which dome-shaped muscle beneath the lungs is a main driver of quiet inhalation?
   - A. Gluteus maximus
   - B. Triceps
   - C. Deltoid
   - D. Diaphragm

   Correct answer: D. Diaphragm
   The diaphragm contracts and flattens, giving the chest cavity more room and helping air flow into the lungs.

5. Where does most absorption of nutrients from a meal take place?

A. Stomach
B. Small intestine
C. Esophagus
D. Large intestine

Correct answer: B. Small intestine
Most nutrient absorption happens in the small intestine. Its folds and small projections expand the surface available for absorption.

6. In a healthy knee, what covers the ends of the bones at their moving surfaces and helps them glide?

A. Articular cartilage
B. Bone marrow
C. Skeletal muscle
D. Periosteum

Correct answer: A. Articular cartilage
The smooth layer of articular cartilage cushions the ends of the bones and helps the joint move with low friction.

7. Which protein inside red blood cells binds most of the oxygen carried in the blood?

A. Insulin
B. Collagen
C. Keratin
D. Hemoglobin

Correct answer: D. Hemoglobin
Hemoglobin binds oxygen after blood passes through the lungs and can release it where tissues need it.

8. A diagram shows a tiny kidney unit with a blood-filtering cluster and a connected tubule. What is the complete unit called?

A. Villus
B. Alveolus
C. Nephron
D. Axon

Correct answer: C. Nephron
A nephron includes the renal corpuscle, where fluid is filtered, and a tubule, where the fluid is modified.

9. As the left ventricle squeezes, which valve closes to keep blood from flowing backward into the left atrium?

A. Mitral valve
B. Aortic valve
C. Tricuspid valve
D. Pulmonary valve

Correct answer: A. Mitral valve
The mitral valve sits between the left atrium and ventricle. It closes as ventricular pressure rises, helping direct the blood toward the aorta.

10. An oxygen-rich red blood cell returns from the lungs through a pulmonary vein. Which heart chamber does it enter first?

A. Right ventricle
B. Left ventricle
C. Right atrium
D. Left atrium

Correct answer: D. Left atrium
The pulmonary veins empty into the left atrium. Blood can then pass through the mitral valve into the left ventricle.

11. Which two organs, in order, produce bile and store it between meals?

A. Pancreas and stomach
B. Gallbladder and liver
C. Liver and gallbladder
D. Small intestine and pancreas

Correct answer: C. Liver and gallbladder
The liver makes bile. The gallbladder stores and concentrates it before releasing it into the small intestine.

12. A tap below the kneecap briefly stretches the thigh muscle and the lower leg kicks. Where does the basic reflex connection occur?

A. Cerebellum
B. Spinal cord
C. Cerebral cortex
D. Inner ear

Correct answer: B. Spinal cord
A sensory signal from the stretched muscle reaches the spinal cord and activates a motor neuron. The basic reflex can happen without a conscious decision.

13. A vessel takes oxygen-poor blood away from the heart toward the lungs. How is the vessel classified?

A. A capillary, because the blood will pick up oxygen
B. A vein, because it carries oxygen-poor blood
C. A vein, because it reaches the lungs
D. An artery, because it carries blood away from the heart

Correct answer: D. An artery, because it carries blood away from the heart
Blood-flow direction defines an artery. Pulmonary arteries travel away from the heart even though they carry relatively oxygen-poor blood.

14. You slowly straighten a bent elbow against a resistance band pulling your hand toward your shoulder. Which muscle provides the main straightening force?

A. Triceps brachii
B. Biceps brachii
C. Brachialis
D. Brachioradialis

Correct answer: A. Triceps brachii
The triceps brachii extends the elbow. The biceps, brachialis and brachioradialis all contribute to bending it.

15. In a healthy lung, oxygen partial pressure is higher in an alveolus than in the blood just arriving at its capillary. What happens next?

A. The difference drives oxygen into the alveolus by active transport.
B. Oxygen diffuses from the blood into the alveolus.
C. Oxygen diffuses from the alveolus into the blood.
D. Oxygen cannot cross until both partial pressures are equal.

Correct answer: C. Oxygen diffuses from the alveolus into the blood.
Oxygen moves across the thin barrier toward the side with lower oxygen partial pressure. It enters the capillary blood without an active pump.