

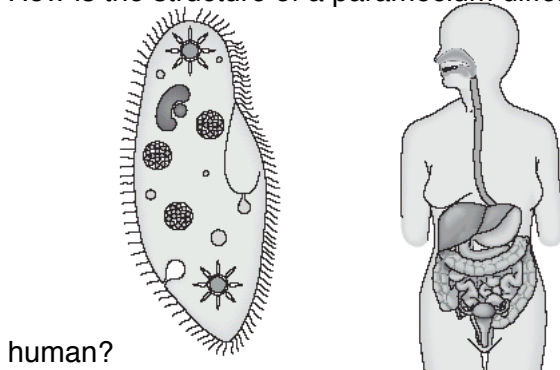
1 How are red blood cells different from white blood cells?

- A They have more than one nucleus.
- B They are made mostly of hemoglobin.
- C They are larger than white blood cells.
- D They live longer than white blood cells.

2 A human being is made of

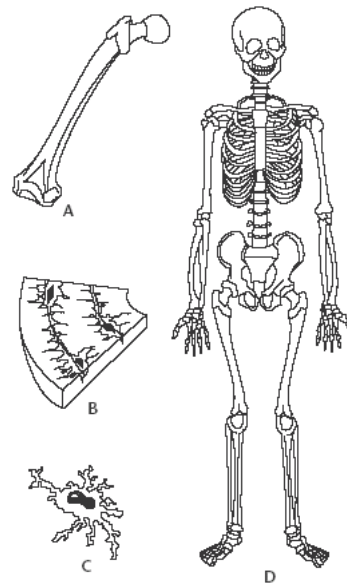
- A one cell.
- B many cells.
- C one type of cell.
- D two or three cells.

3 How is the structure of a paramecium different from the structure of a



- A The paramecium has organs.
- B The paramecium has mitochondria.
- C The humans cells lack nuclei.
- D The human has specialized cells.

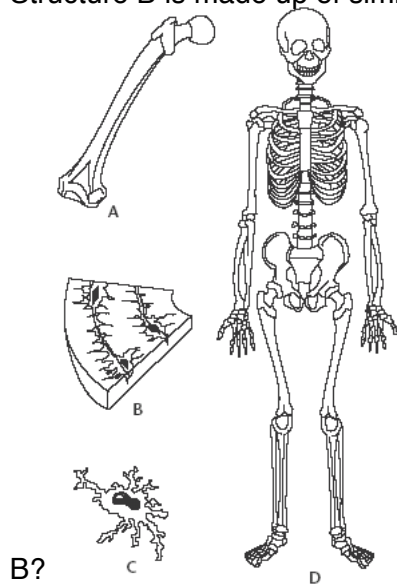
4



What level of organization is represented by Structure D?

- A a cell
- B an organ
- C a tissue
- D an organ system

5 Structure B is made up of similar cells working together. What level of organization is Structure



B?

- A a cell
- B a tissue
- C an organ
- D an organ system

6 Your brain is a structure composed of different kinds of tissue. What is this kind of structure called?

- A a cell
- B an organ system
- C an organ
- D a tissue

7 Which of the following lists levels of organization from least to most complex?

- A organs, cells, organ systems, tissues
- B cells, tissues, organs, organ systems
- C tissues, organs, organ systems, cells
- D cells, organs, organ systems, tissues

8 Which of the following is *not* a type of tissue found in the human body?

- A cell tissue
- B muscle tissue
- C connective tissue
- D nervous tissue

9 On which level of structural organization is your heart?

- A cell
- B organ
- C tissue
- D organism

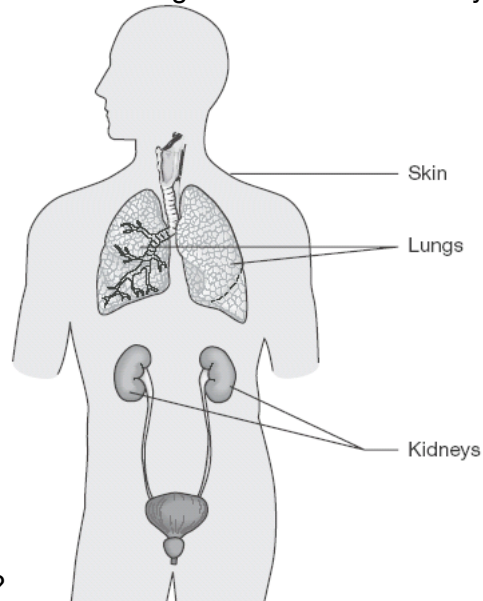
10 In the human body, what is the relationship between the pharynx, trachea, bronchi, and lungs?

- A They work independently of one another.
- B They work together to transport oxygen and nutrients to all the cells of the body.
- C They work together to break food down into molecules that the body can use.
- D They work together to bring oxygen into and remove carbon dioxide from the body.

11 A heart attack occurs when blood flow to part of the heart muscle is blocked. What happens to the cells in the part of the heart that does not receive blood and oxygen during a heart attack?

- A They become stronger.
- B They become anaerobic.
- C They die.
- D They regenerate.

- 12 The diagram shows several organs of the human body. Which function do all of these organs interact



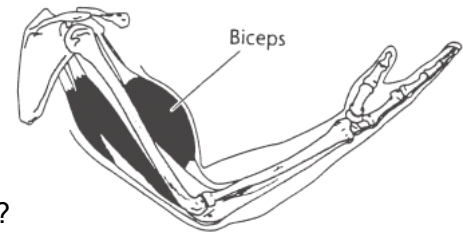
to help carry out?

- A digestion of food
 - B production of hormones
 - C removal of waste products
 - D coordination of body movements
- 13 What is the role of the liver in the digestive system?
- A breaks down medicines
 - B helps eliminate nitrogen from the body
 - C produces bile
 - D absorbs nutrients
- 14 In people with sickle cell disease, red blood cells can become sickle-shaped. Sickleshaped red blood cells do not carry oxygen as well as normal red blood cells do. How might this affect a person?
- A It is easier to become tired.
 - B It is harder to eat enough food.
 - C It is harder to get enough water.
 - D It is easier to run long distances.
- 15 Abusing alcohol can cause serious damage to the liver. Which body system would be most affected by this damage?
- A circulatory
 - B digestive
 - C endocrine
 - D respiratory

16 Why do skeletal muscles work in pairs?

- A because two muscles can do more work than one
- B because muscles can only contract
- C because muscles can only lengthen
- D because bones are heavier than they seem

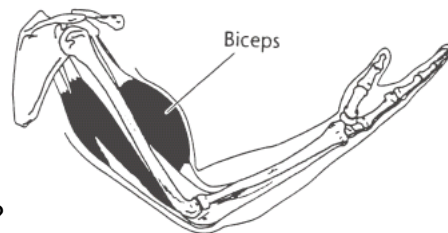
17



How are the biceps muscles and the bones of the arm related?

- A They work together to lift the forearm.
- B They work independently to react to stimuli.
- C They work together to pump blood to the fingers.
- D They work independently with specialized functions.

18



Which of the following causes your arm to bend?

- A The biceps muscle relaxes while the triceps muscle contracts.
- B The biceps muscle contracts while the triceps muscle relaxes.
- C The biceps muscle and the triceps muscle contract at the same time.
- D The biceps muscle and the triceps muscle relax at the same time.

19 Why is the biceps classified as a skeletal muscle?


- A It is attached to bones and is used to move them.
- B It reacts and tires slowly.
- C Its contractions are involuntary.
- D It is found in internal organs.

20 When a skeletal muscle contracts, which structure pulls directly on the bone?

- A another bone
- B a tendon
- C smooth muscle
- D marrow

21 Which is one characteristic of skeletal muscles that makes them useful for motion?

- A They cannot be consciously controlled.
- B They do not tire easily.
- C They have smooth structures.
- D They react very quickly.

22 What is the function of the human cell shown in the diagram? 

- A sexual reproduction
- B hormone transport
- C DNA replication
- D oxygen delivery

23 What is the male sex cell?

- A egg
- B scrotum
- C testis
- D sperm

24 What is the female sex cell?

- A egg
- B ovary
- C fallopian tube
- D uterus

25 Which structure in the female body produces sex cells?

- A fallopian tube
- B ovary
- C placenta
- D uterus

26 How does fertilization occur?

- A An ovary enters a testis.
- B A testis enters an ovary.
- C An egg cell enters a sperm cell.
- D A sperm cell enters an egg cell.

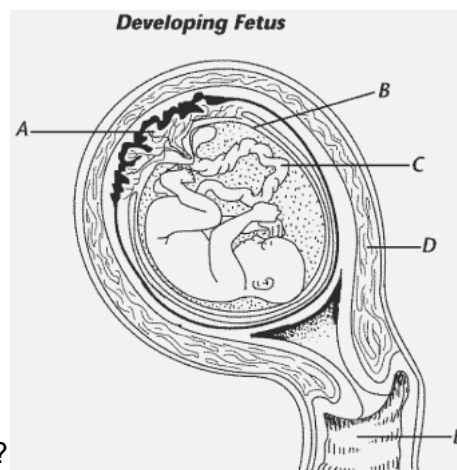
27 What happens to an egg cell if it is *not* fertilized?

- A It is absorbed into the ovary.
- B It develops into an embryo.
- C It implants into the wall of the uterus.
- D It passes out of the body during menstruation.

28 What structure carries nutrients and oxygen from the mother's placenta to the fetus?

- A amniotic sac
- B fallopian tube
- C ovary
- D umbilical cord

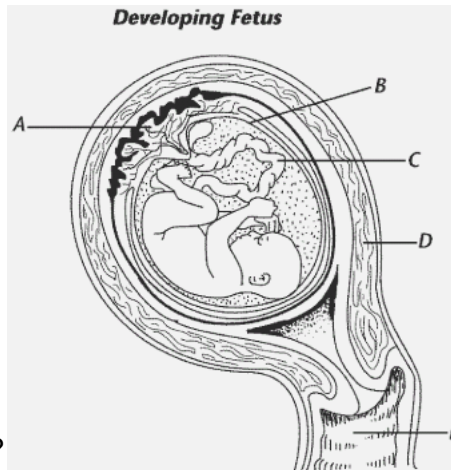
29



What is structure A?

- A amniotic fluid
- B umbilical cord
- C placenta
- D fallopian tube

30



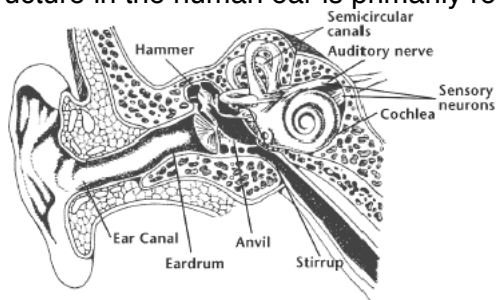
What is the function of structure A?

- A cushioning and protecting the fetus
- B exchanging substances between the fetus and the mother
- C producing the egg cell that grows into the fetus
- D providing a way for the baby to leave the uterus

31 What do rods in the retina of the eye allow you to see?

- A colors
- B distances
- C bright light
- D black, white, and gray

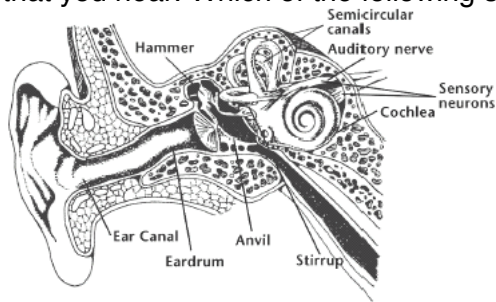
32 Which structure in the human ear is primarily responsible for the sense of



balance?

- A stirrup
- B cochlea
- C auditory nerve
- D semicircular canal

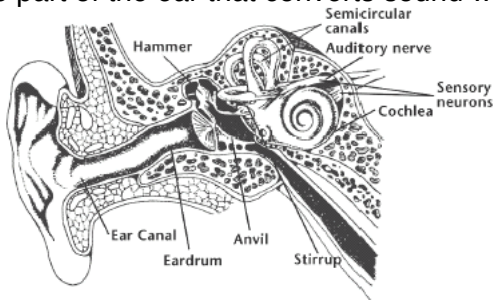
- 33 Sensory neurons in the inner ear send messages to the cerebrum. These messages are interpreted as sounds that you hear. Which of the following stimulates sensory neurons to send messages to the



cerebrum?

- A hormones
- B blood cells
- C vibrations
- D fluid levels

- 34 The part of the ear that converts sound waves to nerve signals is



the

- A cochlea.
- B ear drum.
- C ear canal.
- D middle ear.

- 35 When light strikes the rods and cones of the eye, nerve impulses travel to the

- A optic nerve.
- B cerebrum.
- C retina.
- D lens.

- 36 What is the function of the cornea?

- A controlling the amount of light that enters the eye
- B converting light into electrical signals
- C detecting the color of objects
- D focusing light that enters the eye

- 37 Which of the following occurs *first* when you see an object?
- A The lens focuses light on the retina.
 - B Light enters the cornea.
 - C The retina sends signals to the brain.
 - D Rod and cone cells change light into electrical signals.
- 38 For a camera to produce an image, the light from an object must first enter through its aperture. Which structures in the eye serve the same function as the aperture?
- A cornea and lens
 - B pupil and iris
 - C retina and optic nerve
 - D rods and cones
- 39 What is the stimulus that causes your eyes to respond?
- A color
 - B light
 - C objects
 - D sound
- 40 Tendons and muscles pull on bones to move your limbs. How, then, are they making the bones work?
- A as levers
 - B as inclined planes
 - C as wheels and axles
 - D as pulleys

41



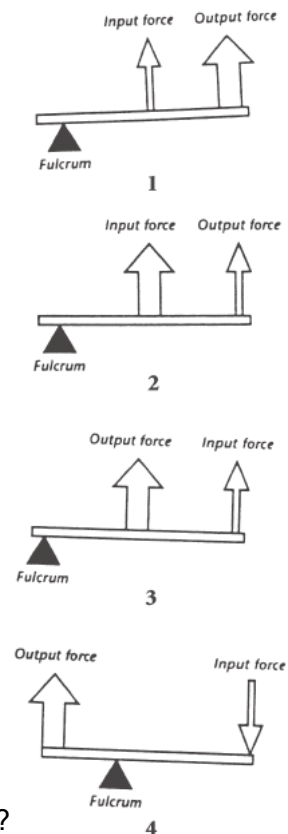
The diagram shows the shoulder joint. Which statement is *true* of this joint?

- A It allows movement only in one direction.
- B It can act as the fulcrum of a lever.
- C It does not allow movement.
- D It is a sliding joint.

42 The joints in your wrists can act as fulcrums in third-class levers. Which type of joint is found in your wrists?

- A ball-and-socket
- B hinge
- C pivot
- D sliding

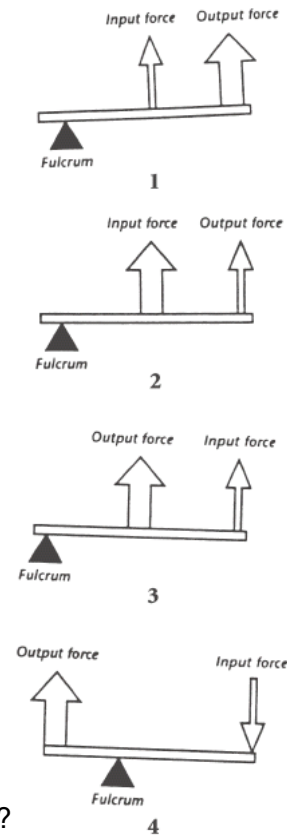
43



Which of the levers shown is the same class as a shovel?

- A 1
- B 2
- C 3
- D 4

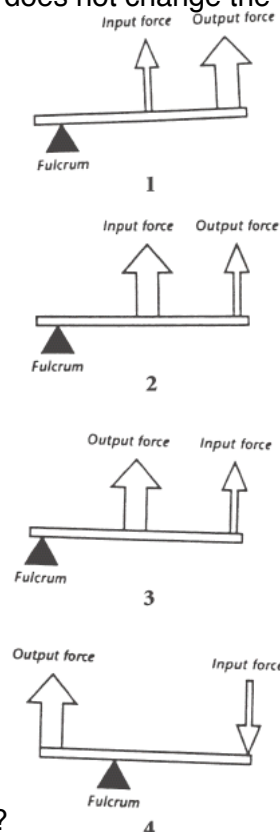
44



Which of the levers shown is the same class as a baseball bat?

- A 1
- B 2
- C 3
- D 4

- 45 A fishing pole is an example of a third-class lever. It increases distance but does not change the



direction of the input force. Which of the levers shown is a third-class lever?

- A 1
 - B 2
 - C 3
 - D 4
- 46 The muscles and bones in your arm make up a third-class lever. What is the fulcrum?
- A the biceps muscle
 - B the wrist
 - C the elbow
 - D the fingers
- 47 When you bend your arm to lift a heavy object, your muscles provide the effort force. How does your forearm change this force?
- A It changes the direction but does not increase or decrease the force.
 - B It decreases the force and increases the distance.
 - C It increases the force but does not change the direction.
 - D It increases both the force and the distance.
- 48 A dancer uses the bones and muscles in her feet to push herself onto her toes. These bones and muscles increase the resistance force but do not change its direction. The bones and muscles act as

- A first-class levers.
- B second-class levers.
- C hinge joints.
- D inclined planes.

49 What causes blood pressure?

- A the valves in blood vessels
- B a cuff tightened around the upper arm
- C the force with which the ventricles contract
- D the diffusion of oxygen into the blood from the lungs

50 As blood moves away from the ventricles,

- A the heart beat strengthens.
- B blood pressure increases.
- C the force of blood on the blood vessels decreases.
- D diffusion of glucose to body cells increases.

51 For the circulatory system to function properly, it is important that blood flow in only one direction through the heart. Which of the following prevents blood from moving in the wrong direction?

- A arteries
- B atria
- C valves
- D ventricles

52 Ian and Ron were making a model of a seesaw. They used weights to represent the people, a ruler to represent the seesaw, and a small piece of wood to represent the seesaw's fulcrum. What piece of scientific equipment should they use to measure force on the seesaw?

- A stopwatch
- B spring scale
- C meter stick
- D thermometer

53 Jana wants to observe cells. Which tool will she need to use?

- A balance
- B binoculars
- C microscope
- D telescope

54 Paul needs to measure his heart rate before and after he does jumping jacks. Which tool could he use to help?

- A balance
- B magnifying glass
- C ruler
- D stopwatch

55 Four hormones that regulate the menstrual cycle are P (progesterone), LH (luteinizing hormone), FSH (follicle-stimulating hormone), and E (estrogen). The table shows their concentrations on certain days during the menstrual cycle. Which of the following conclusions do the data support?

Day of Cycle	P	LH	FSH	E
1	2	9	6	7
10	1	10	6	7
15	2	20	12	14
20	10	10	5	11
28	1	8	3	6

- A P is the least important hormone in the process.
- B Levels of these hormones are lowest on the 28th day.
- C When FSH levels are rising, P levels are falling.
- D E levels vary less than FSH levels do.

56 What question was the scientist who collected the data *most* likely trying to answer?

Gases in Inhaled and Exhaled Air		
Gas	Inhaled Air	Exhaled Air
Oxygen	21%	16%
Nitrogen	78%	78%
Carbon dioxide	0.03%	4%

- A What is oxygen?
- B Is there nitrogen in inhaled air?
- C How do the gases in inhaled and exhaled air differ?
- D Do humans inhale more air than they exhale?

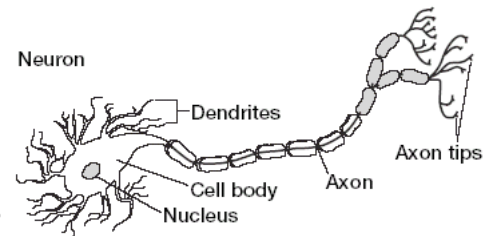
- 57 Which conclusion is *best* supported by the data in the table?

Gases in Inhaled and Exhaled Air		
Gas	Inhaled Air	Exhaled Air
Oxygen	21%	16%
Nitrogen	78%	78%
Carbon dioxide	0.03%	4%

- A Human respiration produces carbon dioxide.
 B Human respiration produces oxygen and nitrogen.
 C Human respiration requires large amounts of nitrogen.
 D Human respiration uses carbon dioxide to produce oxygen.
- 58 Elena is making a diagram showing how the circulatory and respiratory systems work together. Which structure would be *most* important for her to label?

- A alveolus
 B aorta
 C nose
 D trachea

59



Which of the following would be the *best* title for this diagram?

- A How Nerves Work
 B The Nervous System
 C Structures of a Neuron
 D Transmitting Nerve Signals
- 60 A human red blood cell typically has a diameter of about 7.5 microns. (1 micron = .000001 meter) Some white blood cells can have a diameter of 15 microns. Which of the following would be the *best* choice for a scale model showing both types of cell?
- A a 5-cm ball for the red blood cell and a 7-cm ball for the white blood cell
 B a 7-cm ball for the red blood cell and a 5-cm ball for the white blood cell
 C a 5-cm ball for the red blood cell and a 10-cm ball for the white blood cell
 D a 1-m ball for the red blood cell and a 50-cm ball for the white blood cell