

### GCS Grade 7 Science Benchmark 3

1. Which are systems of the human body?

- a. lungs, heart, and brain
- b. arteries, blood, and heart
- c. vision, hearing, and taste
- d. respiratory, circulatory, and reproductive

2. Which activity is a function of the skeletal system?

- a. movement of joints
- b. protection for organs
- c. production of enzymes
- d. elimination of carbon dioxide

3. Which two systems work together to remove waste and bring oxygen to blood?

- a. digestive and excretory
- b. circulatory and digestive
- c. respiratory and excretory
- d. circulatory and respiratory

4. Which function summarizes the excretory system

- a. It removes waste
- b. It collects oxygen
- c. It attacks diseases
- d. It delivers nutrients.

5. Which system breaks down food into nutrients that can be absorbed into the body?



- a. excretory
- b. circulatory
- c. digestive
- d. lymphatic

6. Which blood vessel allows the exchange of gases within tissues?

- a. vein
- b. capillary
- c. vena cava
- d. aorta

7. When air moves into the lungs, oxygen\_\_\_\_\_.



- a. diffuses across the membranes of the alveoli and exits the blood
- b. moves across the membranes of the alveoli by active transport
- c. diffuses across the membranes of the alveoli and enters the blood
- d. is converted into carbon monoxide

8. Which blood vessels carry deoxygenated blood back to the heart?

- a. xylem
- b. veins
- c. phloem
- d. arteries

9. During sexual reproduction, the egg and sperm combine the contents of their nuclei in the process called:

- a. pollination
- b. maturation
- c. fertilization
- d. binary fission

10. There are bones in the hand that can glide over one another, giving flexibility to the area. Which joint in the hand allow this flexibility?

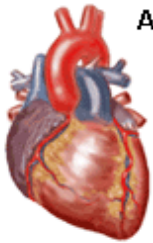
- a. sliding joint
- b. ball-and-socket joint
- c. fixed joint
- d. hinge joint

11. Which organ systems work together to supply food and oxygen to the brain?

- a. the skeletal, immune, and excretory system
- b. the muscular, endocrine, and reproductive systems
- c. the nervous, lymphatic, and skeletal systems
- d. the digestive, respiratory, and circulatory systems

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12. Which organ is responsible for filtering toxins and waste from the blood?



**B. Stomach**



- a. A
- b. B
- c. C
- d. D

13. In humans, gametes are produced in the:

- a. ovaries and testes
- b. fallopian tubes and seminal vesicles
- c. ovules and pollen grains
- d. gametophytes and sporophytes

14. Identify the part of the female reproductive system that produces eggs.

- a. ovaries
- b. testes
- c. uterus
- d. fallopian tubes

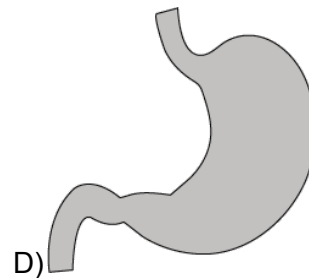
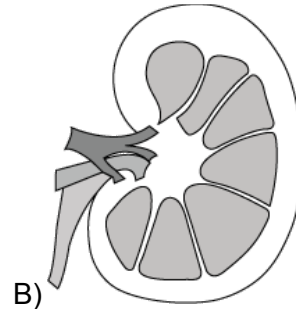
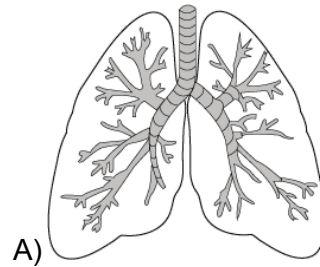
15. What is the soft tissue inside bones that produces red blood cells or stores fat?

- a. tendon
- b. cartilage
- c. compact bone
- d. bone marrow

16. Which part of the digestive system is the location where most nutrients are absorbed into the bloodstream?

- a. esophagus
- b. stomach
- c. small intestine
- d. large intestine

17. Which pictures shows the major organ in the respiratory system?



18. The elbow is where the upper and lower arm connect. What type of joint is this?

- a. sliding joint
- b. ball-and-socket joint
- c. fixed joint
- d. hinge joint

19. Which of the following is the correct path of food as it moves through this body system?



- mouth, pharynx, esophagus, stomach, small intestine, large intestine, anus
- mouth, esophagus, pharynx, stomach, small intestine, large intestine, anus
- mouth, pharynx, esophagus, stomach, large intestine, small intestine, anus
- pharynx, mouth, esophagus, stomach, large intestine, small intestine, anu

20 .What is the protein in blood that carries oxygen?



Red Blood Cell

- estrogen
- testosterone
- thyroxin
- hemoglobin

21. John wants to build a racetrack that will allow his toy cars to travel fast when force is applied. Which material should he use?

- carpet, because friction will be high
- gravel, because friction will be high
- plastic, because friction will be low
- sandpaper, because friction will be low

22. Steven threw four balls into the air and recorded their heights. The chart below shows the maximum height for each ball.

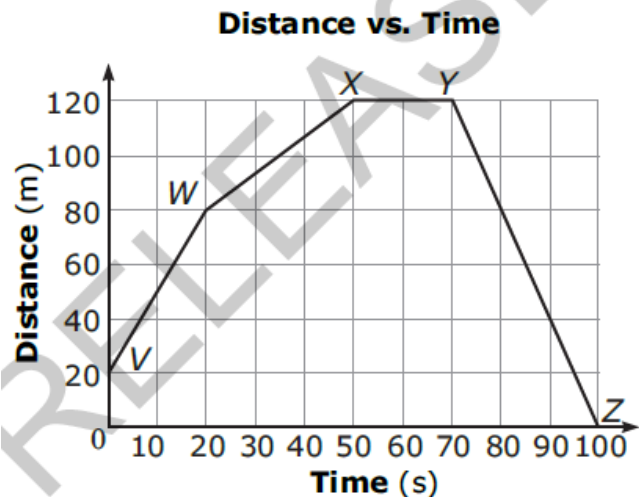
Maximum Height Reached by Four Balls

Ball	Maximum Height (m)
M	2.0
N	1.5
O	4.2
P	3.0

Which describes their motion?

- Ball P went twice as high as Ball N.
- Ball M went twice as high as Ball N.
- Ball P went two meters higher than Ball O.
- Ball N went two meters higher than Ball O.

23. The graph below shows the distance traveled by an object over 100 seconds.

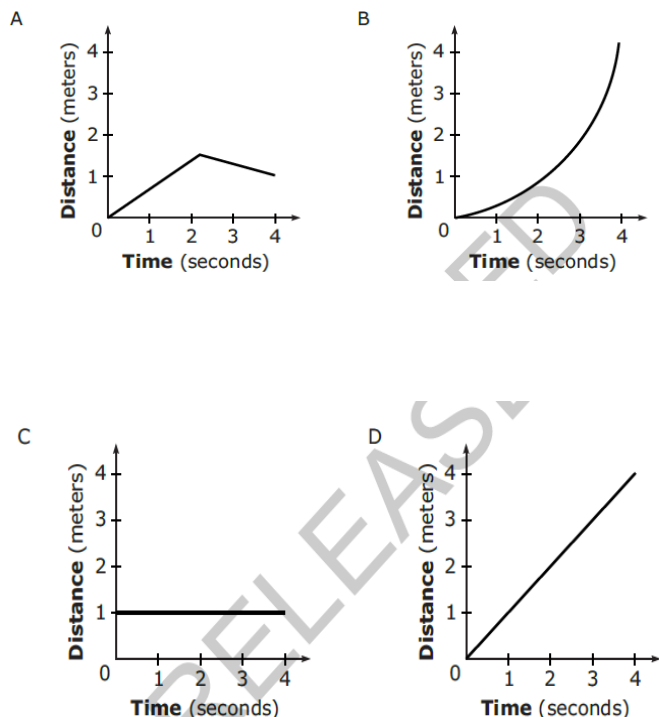


What happened to the motion of the object between  $t = 50$  s and  $t = 70$  s?

- The object increased its speed.
- The object decreased its speed.
- The object stopped moving.
- The object changed directions.

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24. Which graph represents a moving object with a constant speed throughout its entire travel time?



25. \_\_\_\_\_ is a unit of speed:

- a. m/s
- b. s
- c. kg
- d. hr

26. The speed at any instant of time is known as

- a. average speed
- b. velocity
- c. given speed
- d. instantaneous speed

27. If a total distance of 750 m is covered in a time interval of 25 s, the average speed is \_\_\_\_\_?

- a. 3, 974 mph
- b. 3 mph
- c. 30 mph
- d. 30 m/s

28. \_\_\_\_\_ describes how fast something is going, whereas, \_\_\_\_\_ describes how fast something is going and in a certain direction.

- a. speed, velocity
- b. rate, speed
- c. rate, velocity
- d. speed, acceleration

29. If a person walked at 2 m/s for 12 s he/she would travel a distance of \_\_\_\_\_.

- a. 24 m
- b. 6 m
- c. 4 m
- d. none of the answers

30. How long would it take to travel 50 km traveling at a speed of 10 km/hr?

- a. 3 hours
- b. 1 hour
- c. 5 hours
- d. 50 hours

31 To best determine which characteristics of a person are formed by environmental factors rather than genetic factors, scientists would study which group?

- a. siblings growing up together
- b. identical twins growing up together
- c. siblings living apart from each other
- d. identical twins living apart from each other

32. A genetic condition is found to occur only in males. Which best explains this?

- a. A mutation causes the condition.
- b. The condition is probably X-linked.
- c. The condition is probably Y-linked.
- d. females are immune to the condition

33. Which causes precipitation to occur?

- a. Water evaporates into the air
- b. Water droplets spread out in the air
- c. Water vapor condenses on tiny particles in the air
- d. Water droplets combine and become heavy enough to fall

34. Which profession predicts the weather?

- a. astronomer
- b. geologist
- c. meteorologist
- d. seismologist

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35. Which describes how the Coriolis effect influences ocean currents in the Northern Hemisphere?

- a. The effect deflects ocean currents to the left
- b. The effect deflects ocean currents to the right
- c. The effect deflects ocean currents in a northern direction.
- d. The effect deflects ocean currents in a southern direction.

36. Which is a function of cytoplasm in both plant and animal cells?

- a. creating energy
- b. directing cellular activity
- c. disposing of cellular waste
- d. providing support for organelles

37. How can a scientist determine if he is viewing a plant or animal cell?

- a. determine if the cell has a nucleus
- b. determine if the cell has a cell wall
- c. determine if the cell has mitochondria
- d. determine if the cell has a cell membrane

38. Which is the basic unit of life?

- a. cell
- b. membrane
- c. nucleus
- d. organelle

39. Which best explains the relationship between cells, tissues, and organs?

- a. Many tissues working together form cells, which work together and form organs.
- b. Many cells working together form organs, which work together and form tissues.
- c. Many cells working together form tissues, which work together and form organs.
- d. Many tissues working together form organs, which work together and form cells.

40. In a genetics investigation, students used two red straws to represent male parent DNA. They used two green straws to represent female parent DNA. How should the offspring be represented?

- a. two red straws
- b. two green straws
- c. one red straw and one green straw
- d. either one red straw or one green straw