Middle School Sports Science Fundamentals

Sports Science · Answer Key · 25 Questions

1. Which primary organ is responsible for pumping blood throughout the human body during physical activity?

A) Lungs
B) Heart
C) Liver
D) Kidneys

2. What is the main source of energy that muscles use for contraction during short, intense bursts of exercise?

A) Adenosine triphosphate (ATP)
B) Vitamin C
C) Iron
D) Calcium

3. Which type of tissue connects muscles to bones?

A) Ligament
B) Cartilage
C) Tendon
D) Nerve

4. What is the primary function of red blood cells during exercise?

A) To digest food
B) To carry oxygen to muscles
C) To produce hormones
D) To repair broken bones

5. Which term describes the body's ability to maintain a stable internal environment during exercise?

A) Homeostasis
B) Evolution
C) Digestion
D) Photosynthesis

6. What is the primary role of the skeletal system in sports?

A) Oxygen transport
B) Providing structural support and protection
C) Regulating body temperature
D) Storing glucose

7. Which gas do humans inhale to support aerobic cellular respiration during exercise?

A) Carbon dioxide
B) Nitrogen
C) Oxygen
D) Helium

8. What are the units commonly used to measure the energy content in food?

A) Celsius
B) Calories
C) Newtons
D) Grams

9. Which nutrient is considered the primary building block for muscle repair and growth?

A) Carbohydrates
B) Fats
C) Protein
D) Fiber

10. What is the name of the joint movement that increases the angle between two body parts, like straightening the arm?

A) Flexion
B) Extension
C) Rotation
D) Adduction

11. Which of the following is a physical benefit of regular aerobic exercise?

A) Decreased bone density
B) Increased heart efficiency
C) Slower reaction time
D) Increased resting blood sugar

12. What process helps remove waste products like carbon dioxide from the muscles during physical activity?

A) Circulation
B) Photosynthesis
C) Osmosis
D) Digestion

13. Which type of muscle is found in the walls of internal organs and blood vessels?

A) Skeletal muscle
B) Cardiac muscle
C) Smooth muscle
D) Striated muscle

14. What do ligaments connect in the human body?

A) Muscle to bone
B) Bone to bone
C) Nerve to muscle
D) Skin to bone

15. What is the primary reason for a 'warm-up' before intense physical activity?

A) To increase heart rate and muscle temperature
B) To decrease blood flow
C) To empty the stomach
D) To lower body temperature

16. Which part of the brain is primarily responsible for coordinating movement and balance?

A) Cerebellum
B) Brain stem
C) Occipital lobe
D) Hypothalamus

17. What is the chemical waste product created by muscles during intense anaerobic exercise?

A) Lactic acid
B) Citric acid
C) Glucose
D) Oxygen

18. Which of these is a macronutrient that provides the body with its main fuel for physical activity?

A) Vitamin A
B) Carbohydrates
C) Iron
D) Calcium

19. What measures how much force a muscle can exert against a resistance?

A) Flexibility
B) Muscular strength
C) Agility
D) Endurance

20. Which of these activities is best for building cardiovascular endurance?

A) Weightlifting
B) Running
C) Stretching
D) Yoga

21. What is the term for the range of motion around a specific joint?

A) Flexibility
B) Strength
C) Power
D) Speed

22. Which part of the respiratory system is the site of gas exchange between the lungs and the blood?

A) Trachea
B) Bronchi
C) Alveoli
D) Diaphragm

23. What does the 'FITT' principle in exercise science stand for?

A) Fast, Intense, Total, Time
B) Frequency, Intensity, Time, Type
C) Fitness, In, Top, Training
D) Form, Increase, Test, Tendon

24. Which of these is a primary function of sweat during exercise?

A) To increase body heat
B) To cool the body through evaporation
C) To remove protein from the blood
D) To lubricate joints

25. What is the purpose of a cooling-down period after exercise?

A) To increase blood pressure
B) To help the heart rate return to resting levels gradually
C) To stop muscle growth
D) To increase lactic acid production