

Sports Science Basics

Sports Science · Answer Key · 20 Questions

1. What is the main gas absorbed by the lungs to produce energy during aerobic exercise?

A) Oxygen

B) Carbon dioxide

C) Nitrogen

D) Hydrogen

2. Which muscle is the largest in the human body?

A) Biceps brachii

B) Gluteus maximus

C) Gastrocnemius

D) Latissimus dorsi

3. What term describes the maximum amount of oxygen an individual can utilize during intense exercise?

A) BMI

B) VO2 max

C) Lactate threshold

D) Heart rate reserve

4. Which tissue connects muscle to bone in the human body?

A) Ligament

B) Cartilage

C) Tendon

D) Fascia

5. What type of muscle contraction occurs when a muscle lengthens while producing force?

A) Concentric

B) Isometric

C) Eccentric

D) Isokinetic

6. What is the scientific study of human movement and physical activity called?

A) Kinesiology

B) Cardiology

C) Neurology

D) Psychology

7. Which macronutrient is the body's primary source of rapid energy during high-intensity exercise?

- A) Fat
- B) Protein
- C) Carbohydrates**
- D) Vitamin C

8. What is the thickest and strongest tendon in the human body?

- A) Patellar tendon
- B) Achilles tendon**
- C) Biceps tendon
- D) Hamstring tendon

9. Which major mineral is lost in the highest concentration through sweat?

- A) Potassium
- B) Sodium**
- C) Calcium
- D) Magnesium

10. What is the medical term for the increase in muscle size resulting from resistance training?

- A) Atrophy
- B) Hypertrophy**
- C) Hyperplasia
- D) Dystrophy

11. Which type of joint allows movement in almost all directions, such as in the shoulder and hip?

- A) Hinge joint
- B) Pivot joint
- C) Ball-and-socket joint**
- D) Saddle joint

12. Which protein in red blood cells is responsible for transporting oxygen to working muscles?

- A) Myosin
- B) Hemoglobin**
- C) Actin
- D) Collagen

13. What instrument is commonly used by sports scientists to measure skinfold thickness?

- A) Goniometer
- B) Skinfold caliper**
- C) Dynamometer
- D) Stadiometer

14. Which byproduct accumulates in muscles during high-intensity anaerobic exercise?

- A) Lactic acid**
- B) Uric acid
- C) Citric acid
- D) Amino acid

15. What is the typical normal resting heart rate range for a healthy adult?

- A) 20-40 beats per minute
- B) 60-100 beats per minute**
- C) 120-150 beats per minute
- D) 160-180 beats per minute

16. Which strong tissue connects bone to bone at a joint to provide stability?

- A) Tendon
- B) Ligament**
- C) Epidermis
- D) Myofibril

17. What does the acronym BMI stand for in health and fitness assessment?

- A) Body Mass Index**
- B) Basic Metabolic Indicator
- C) Bone Muscle Intensity
- D) Body Measurement Rate

18. Which unit of measurement is used to quantify energy obtained from food and used in activity?

- A) Watt
- B) Calorie**
- C) Volt
- D) Lumen

19. Which device is commonly used in sports science to measure hand grip strength?

A) Dynamometer

B) Pedalometer

C) Spirometer

D) Accelerometer

20. Which hormone is released by the pancreas to help regulate blood glucose levels after eating?

A) Adrenaline

B) Cortisol

C) Insulin

D) Melatonin