What is the primary source of energy for muscle contraction

- A. Glucose
- B. Protein
- C. ATP
- D. Oxygen

Answer: C. ATP

What is the term for the process by which glucose is converted into ATP in muscle c

- A. Glycolysis
- B. Fermentation
- C. Cellular respiration
- D. Photosynthesis

Answer: A. Glycolysis

What is the role of creatine phosphate in muscle metabolism

- A. Helps with muscle growth
- B. Stimulates muscle repair
- C. Provides quick energy for muscle contractions
- D. Regulates muscle flexibility

Answer: C. Provides quick energy for muscle contractions

What is the main waste product produced during anaerobic metabolism in muscle ce

- A. ATP

• B. Carbon dioxide

• C. Water

• D. Lactic acid

Answer: D. Lactic acid

What hormone is responsible for increasing blood glucose levels during exercise

• A. Epinephrine

• B. Insulin

• C. Glucagon

• D. Cortisol

Answer: A. Epinephrine

What is the term for the build-up of lactic acid in muscles during intense exercise

• A. Muscle fatigue

• B. Lactic acidosis

• C. Glycolysis

• D. Anaerobic respiration

Answer: B. Lactic acidosis

What is the primary function of glycogen in muscle cells

• A. Energy storage

• B. Cell communication

• C. Structural support

• D. DNA replication

Answer: A. Energy storage

What is the name of the process by which muscle cells break down fatty acids for en

- A. Glycolysis
- B. Lipogenesis
- C. Beta-oxidation
- D. Photosynthesis

Answer: C. Beta-oxidation

What is the role of oxygen in muscle metabolism

- A. Oxygen helps muscles grow stronger.
- B. Oxygen is only needed for short bursts of exercise.
- C. Oxygen is needed for aerobic respiration in muscles.
- D. Oxygen is not important for muscle metabolism.

Answer: C. Oxygen is needed for aerobic respiration in muscles.

What is the main difference between slow-twitch and fast-twitch muscle fibers in ter

- A. Location
- B. Color
- C. Size
- D. Metabolism rate

Answer: D. Metabolism rate

What is the term for the process by which muscle cells repair and grow after exercis

- A. Muscle hypertrophy
- B. Protein synthesis
- C. Cell degeneration
- D. Metabolic breakdown

Answer: A. Muscle hypertrophy

What is the name of the enzyme that converts ATP into ADP during muscle contracti

- A. ADPase
- B. ATPase
- C. ADP synthase
- D. ATP synthase

Answer: B. ATPase

What is the main source of amino acids for muscle protein synthesis

- A. Carbohydrates
- B. Dietary protein
- C. Vitamins
- D. Fats

Answer: B. Dietary protein

What is the role of insulin in muscle metabolism

- A. Insulin has no effect on muscle metabolism

• B. Insulin breaks down muscle tissue

• C. Insulin inhibits muscle growth

• D. Insulin promotes glucose uptake by muscle cells

Answer: D. Insulin promotes glucose uptake by muscle cells

What is the term for the process by which muscle cells break down proteins for ener

• A. Glycolysis

• B. Lipolysis

• C. Oxidative Phosphorylation

• D. Proteolysis

Answer: D. Proteolysis

What is the main function of mitochondria in muscle cells

• A. Produce energy

• B. Produce proteins

• C. Store water

• D. Regulate temperature

Answer: A. Produce energy

What is the name of the molecule that carries high-energy electrons to the electron t

• A. ATP

• B. NADH

• C. FADH2

• D. Glucose

Answer: B. NADH

What is the main difference between aerobic and anaerobic metabolism in muscle ce

- A. Type of muscle
- B. Presence of oxygen
- C. Speed of reaction
- D. Location in the body

Answer: B. Presence of oxygen

What is the term for the process by which muscle cells store excess glucose as glyc

- A. Gluconeogenesis
- B. Glycolysis
- C. Glycogenesis
- D. Glycogenolysis

Answer: C. Glycogenesis

What is the main function of myoglobin in muscle cells

- A. Produce energy for muscle cells
- B. Help with muscle contraction
- C. Store and transport oxygen in muscle cells
- D. Regulate muscle growth

Answer: C. Store and transport oxygen in muscle cells