

Name _____

Pumping Iron: How Exercise Builds Muscle Strength and Size

Open-Ended Response Answer Key

1. Exercise stimulates muscle growth by causing microscopic damage to muscle fibers, which triggers protein synthesis and muscle repair.
2. Myofibrillar hypertrophy involves an increase in the size and number of myofibrils, leading to increased muscle strength and power, while sarcoplasmic hypertrophy involves an increase in the volume of sarcoplasm, resulting in larger muscle size without necessarily increasing strength to the same extent.
3. Some ways to promote muscle recovery after exercise include getting adequate sleep, consuming protein-rich foods, staying hydrated, and incorporating active recovery techniques like foam rolling and stretching.
4. It is important to maintain a balanced exercise routine for overall muscle development because different types of exercise, such as resistance training, cardiovascular exercise, and flexibility training, target different muscle groups and contribute to overall strength, endurance, and flexibility.

