

THE MUSCULAR SYSTEM

You must be able to label the diagram of the muscular system.

1. Distinguish between voluntary and involuntary tissue.
2. Fill in the blanks. How a skeletal muscle moves:
The skeletal muscle attaches across a joint and attaches to the bones by means of _____.
When the _____ sends a message to bend your arm the muscle _____. As it contracts the muscle _____ and pulls on the tendon in turn which moves the lever, in this case a _____.
Muscles work in _____. When one shortens, the other _____. When the biceps muscle shortens it raises the forearm. This is called _____. (the triceps relaxes). When the arm straightens out the triceps _____. This is called _____. (the biceps are now relaxed).
3. Sketch the two diagrams of flexion and extension in your notes (be sure to label)..
4. Name and explain 3 changes that occur in the muscular system as a result of regular exercise.
5. Distinguish between:
a) flexion and extension
b) adduction and abduction

MUSCLE PHYSIOLOGY

6. Name and describe the 3 basic types of muscle tissue. (See bottom of page)
7. Skeletal Muscle Structure - How Muscles Contract
*A muscle is an organ which by its contraction produces movement. The skeletal muscles are attached to the bones by tendons. A muscle contracts when the brain sends a message via nerve impulses telling the muscle to contract.
The muscle consists of long cells bundled together. These long cells are called _____.
_____ are controlled by a motor nerve. There may be one fibre to one nerve or as many as 150 fibres for each nerve. These groups are called _____.
Each fibre is composed of smaller units called _____ and _____.
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8. Explain the “all or none” principle of muscle physiology.
9. Distinguish between fast and slow twitch fibres. What determines your proportion of fast to slow twitch fibres?
10. The more motor units recruited, the greater the strength of the muscle _____.
Intense training improves the body’s ability to recruit more motor units resulting in greater _____.
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11. The larger the cross sectional area of a muscle the greater its _____. An increase in muscle cross-section is called _____. A decrease is called _____.

12. Injuries to the Muscular System:

Explain what a bruise is and how to treat a bruise.

13. What are muscle strains? How are muscle strains treated?

14. Explain what tendinitis is and how it is treated.

15. Describe what a pulled or torn muscle is. How should it be treated?

16. Describe a muscle cramp. What causes muscle cramps? How are muscle cramps treated?

17. What is a hernia?