

7C Muscles & Bones	Knowledge, Skills and Understanding
Higher	<p>Explain how muscle cells are adapted to their function.</p> <p>Explain how a red blood cell is adapted to its function.</p> <p>Identify the limitations of different types of skeletons</p> <p>Compare vertebrate and invertebrate skeletons</p> <p>Consider the consequences of the effects of frictional and impact forces on joints</p> <p>Compare natural hip joints with their artificial replacements</p> <p>Describe the importance of testing drugs.</p>
Intermediate	<p>Use a model to explain how lungs expand and contract</p> <p>Identify muscle cells as being adapted to their function.</p> <p>Describe the structure of red blood cells</p> <p>Describe the functions of red blood cells, white blood cells and plasma</p> <p>Explain how the structure of capillaries is related to their function</p> <p>Explain why the left-hand side of the heart has a thicker muscle wall than the right-hand side</p> <p>Describe the basic parts of joints</p> <p>Classify joints as different types</p> <p>Use a knowledge of bones and joints to identify problems with them.</p> <p>State the function of and the parts in the locomotor system and correctly use the terms: locomotor system, biomechanics</p> <p>Explain why antagonistic muscles are used to operate bones in many joints</p> <p>Describe the action of the biceps and triceps as an example of an antagonistic pair</p> <p>Describe how muscle action is controlled by nervous impulses</p> <p>Recall the short- and long-term effects of commonly abused substances</p> <p>Explain the effects of stimulants and depressants on the body by reference to the nervous system</p> <p>Explain the short- and long-term effects of alcohol.</p>
Foundation	<p>Recall what happens in respiration</p> <p>Identify the main organs of the human gaseous exchange system</p> <p>Describe the functions of the organs in the human gaseous exchange system and how breathing movements occur</p> <p>Correctly use the terms: breathing, breathing rate, ventilation, inhalation, exhalation</p> <p>Describe what happens during gas exchange</p> <p>Describe how gases are carried around the body (in the blood)</p> <p>Describe what happens when muscles contract and relax</p> <p>State what the pulse rate measures and where it is measured</p> <p>State the functions of arteries, veins and capillaries</p> <p>Explain how the heart pumps blood by the action of muscles</p> <p>State where blood cells are made.</p> <p>Recall the main functions of the skeleton (support, protection, movement)</p> <p>Identify the main bones in the human skeleton and correctly use the terms: skull, vertebra(e), ribs, sternum, hip, thigh, shin, collar bone, knee cap, ribcage</p> <p>Describe the functions of individual bones (skull, vertebrae, ribs, sternum, hip)</p> <p>Relate the properties of bones to their functions.</p> <p>Describe how muscles and bones work together to allow movement</p> <p>Describe some evidence for continual changes in bone and muscles</p> <p>Recall that contracting muscles produce a force and recall the unit for measuring forces</p> <p>Describe what happens when muscles contract and relax</p> <p>Recall that muscles are controlled by the nervous system</p> <p>Recall that drugs are substances that affect how the body works</p> <p>Recall that drugs can be addictive and correctly use the term: substance abuse</p> <p>Identify the effects and side effects of drugs on the body</p> <p>Classify drugs as legal, illegal, medical, recreational</p> <p>Describe the effects of stimulants and depressants, including on reaction times</p> <p>Describe the short- and long-term effects of alcohol on the body</p>