

## SUBJECT: Y10 GCSE PE Exam Topic Checklist

Topic: Applied anatomy and physiology	Class Notes	RAG	Revised
<b>Topic 1: The structure and functions of the musculoskeletal system</b>			
<ul style="list-style-type: none"> <li>Bones</li> </ul>			
<ul style="list-style-type: none"> <li>Structure of the skeleton</li> </ul>			
<ul style="list-style-type: none"> <li>Functions of the skeleton</li> </ul>			
<ul style="list-style-type: none"> <li>Muscles of the body</li> </ul>			
<ul style="list-style-type: none"> <li>Structure of a synovial joint</li> </ul>			
<ul style="list-style-type: none"> <li>Types of freely movable joints that allow different movements</li> </ul>			
<ul style="list-style-type: none"> <li>How joints differ in design to allow certain types of movement at a joint</li> </ul>			
<ul style="list-style-type: none"> <li>How the major muscles and muscle groups of the body work antagonistically on the major joints of the skeleton to affect movement in physical activity at the major movable joints</li> </ul>			
<b>Topic 2: The structure and functions of the cardio-respiratory system</b>			
<ul style="list-style-type: none"> <li>The pathway of air</li> </ul>			
<ul style="list-style-type: none"> <li>Gaseous exchange</li> </ul>			
<ul style="list-style-type: none"> <li>Blood vessels</li> </ul>			
<ul style="list-style-type: none"> <li>Structure of the heart</li> </ul>			
<ul style="list-style-type: none"> <li>The cardiac cycle and the pathway of the blood</li> </ul>			
<ul style="list-style-type: none"> <li>Cardiac output, stroke volume and heart rate</li> </ul>			
<ul style="list-style-type: none"> <li>Mechanics of breathing – the interaction of the intercostal muscles, ribs and diaphragm in breathing</li> </ul>			
<ul style="list-style-type: none"> <li>Interpretation of a spirometer trace</li> </ul>			
<b>Topic 3: Anaerobic and aerobic exercise</b>			
<ul style="list-style-type: none"> <li>Understanding the terms aerobic exercise (in the presence of oxygen) and anaerobic exercise (in the absence of enough oxygen)</li> </ul>			
<ul style="list-style-type: none"> <li>The use of aerobic and anaerobic exercise in practical examples of differing intensities</li> </ul>			
<ul style="list-style-type: none"> <li>Excess post-exercise oxygen consumption (EPOC)/oxygen debt as the result of muscles respiring anaerobically during vigorous exercise and producing</li> </ul>			

lactic acid			
<ul style="list-style-type: none"> <li>The recovery process from vigorous exercise</li> </ul>			
<b>Topic 4: The short and long term effects of exercise</b>			
<ul style="list-style-type: none"> <li>Immediate effects of exercise (during exercise)</li> </ul>			
<ul style="list-style-type: none"> <li>Short-term effects of exercise (up to 36 hours after exercise)</li> </ul>			
<ul style="list-style-type: none"> <li>Long-term effects of exercise (months and years of exercising)</li> </ul>			

<b>Topic: Movement analysis</b>	<b>Class Notes</b>	<b>RAG</b>	<b>Revised</b>
<b>Topic 5: Analysis of basic movements in sporting examples</b>			
<ul style="list-style-type: none"> <li>Types of movement: <ul style="list-style-type: none"> <li>flexion/extension at the shoulder, elbow, hip and knee</li> <li>abduction/adduction at the shoulder</li> <li>rotation of the shoulder</li> <li>circumduction of the shoulder</li> <li>plantar flexion/dorsiflexion at the ankle.</li> </ul> </li> </ul>			
<ul style="list-style-type: none"> <li>Applied anatomy and physiology links the joint type to the type of movement only. This should include but not be limited to the following sporting actions: <ul style="list-style-type: none"> <li>elbow action in push-ups/football throw in</li> <li>hip, knee and ankle action in running, kicking, standing vertical jump, basic squats</li> <li>shoulder action during cricket bowling.</li> </ul> </li> </ul>			

<b>Topic: Physical training</b>	<b>Class Notes</b>	<b>RAG</b>	<b>Revised</b>
<b>Topic 5: The relationship between health and fitness and the role that exercise plays in both</b>			
<ul style="list-style-type: none"> <li>The relationship between health and fitness <ul style="list-style-type: none"> <li>Definitions of health and fitness</li> </ul> </li> </ul>			
<ul style="list-style-type: none"> <li>The relationship between health and fitness <ul style="list-style-type: none"> <li>Decreased fitness because of ill health, ie poor health can result in an inability to train, lowers fitness.</li> <li>Increased fitness despite ill health, ie unhealthy but able to train, increases fitness.</li> </ul> </li> </ul>			
<b>Topic 6: The components of fitness, benefits for sport and how fitness is measured and improved</b>			
<ul style="list-style-type: none"> <li>The components of fitness <ul style="list-style-type: none"> <li>Definitions of the following components of fitness: <ul style="list-style-type: none"> <li>agility</li> <li>balance</li> <li>cardiovascular endurance (aerobic power)</li> <li>coordination</li> <li>flexibility</li> <li>muscular endurance</li> </ul> </li> </ul> </li> </ul>			

power/explosive strength (anaerobic power) • reaction time • strength (maximal, static, dynamic and explosive) • speed.			
• Linking sports and physical activity to the required components of fitness			
• Reasons for and limitations of fitness testing			
• Measuring the components of fitness			
• Demonstration of how data is collected for fitness testing			
<b>Topic 7: The principles of training and their application to personal exercise/training programmes</b>			
<ul style="list-style-type: none"> <li>• The principles of training and overload <ul style="list-style-type: none"> <li>○ SPORT to include: <ul style="list-style-type: none"> <li>■ • specificity</li> <li>■ • progressive overload</li> <li>■ • reversibility</li> <li>■ • tedium.</li> </ul> </li> <li>○ Key principles of overload. FITT to include: <ul style="list-style-type: none"> <li>■ • frequency</li> <li>■ • intensity</li> <li>■ • time</li> <li>■ • type.</li> </ul> </li> </ul> </li> </ul>			
• Application of the principles of training			
• Types of training			
• Identification of the advantages and disadvantages (the effects on the body) of training types linked to specific aims			
<b>Topic 8: How to optimise training and prevent injury</b>			
• Calculating intensities to optimise training effectiveness			
Considerations to prevent injury			
Specific training techniques - high altitude training as a form of aerobic training			
Seasonal aspects			
<b>Topic 9: Effective use of warm up and cool down</b>			
• Warming up and cooling down			