

Knowledge Organiser Year 11 Unit 3 - Applying the Principles of Personal Training

- A design a personal fitness training programme B know about the musculoskeletal system and cardiorespiratory system and the effects on the body during fitness training
 C implement a self-designed personal fitness training programme to achieve own goals and objectives D review a personal fitness training programme.

<p><u>Personal information to aid training programme design</u></p> <p>Aims (details of what they would like to achieve for the selected activity/sport). Objectives (how they intend to meet their aims using an appropriate component of fitness and method of training).</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Specific</p> <p>Measurable</p> <p>Action-oriented</p> <p>Realistic</p> <p>Time-bound</p> <p>Exciting</p> <p>Recorded</p> </div>	<p><u>Six week Programme design</u></p> <p>Selection of appropriate training method/activity for improving/maintaining the selected component of fitness, e.g. flexibility, strength, muscular endurance and power, aerobic endurance, speed.</p> <ul style="list-style-type: none"> • Safe design: appropriate method/selection of an appropriate combination of activities to meet personal training needs, goals, aims and objectives. • Application of the basic principles of training - Frequency, Intensity, Time and Type (FITT). • Application of the additional principles of training. • Creative design: consideration given to prevent/avoid barriers to training occurring, ensuring exercise adherence is maintained and the programme is enjoyable, for example including interesting, different exercise activities to maintain motivation and commitment, and to prevent boredom. 	<p><u>Musculoskeletal system</u></p> <p>Location of the major muscles: deltoid, biceps, triceps, pectoralis major, latissimus dorsi, external obliques, gluteus maximus, quadriceps, hamstrings, gastrocnemius and tibialis anterior.</p> <p>Location of the major bones: cranium, clavicle, scapula, ribs, sternum, humerus, radius, ulna, pelvis, femur, patella, tibia, fibula.</p> <p>Structure and function of the synovial joints at the hip, shoulder, knee, elbow.</p> <p>Short term effects of fitness training on the musculoskeletal system: the use of a warm up and flexibility exercises to increase joint range of movement, planning for progressive overload to encourage micro tears in muscle fibres.</p>
<p><u>Exercise intensity</u></p> <p>Intensity: target zones and training thresholds (calculating and applying maximum heart rate (HR max) to training): $HR\ max = 220 - age\ (years)$</p> <p>60–85% HR max is the recommended training zone for cardiovascular health and fitness</p> <p>Borg Rating of Perceived Exertion (RPE) Scale (1970) (6–20) can be used as a measure of exercise intensity</p> <p>The relationship between RPE and heart rate where $RPE \times 10 = HR\ (bpm)$.</p>	<p><u>Cardiorespiratory system</u></p> <p>Structures of the cardiovascular system: atria, ventricles, aorta, vena cava, pulmonary artery, pulmonary vein.</p> <p>Structures of the respiratory system: lungs, bronchi, bronchioles, alveoli, diaphragm.</p> <p>Short term effects of fitness training on the cardiorespiratory system:</p> <p>Increased heart rate and breathing rate during fitness training activities to supply oxygen to working muscles. Increased build-up of lactic acid as a result of increased intensity in the main component.</p>	<p><u>Complete & Review programme</u></p> <p><u>Complete each session and record fitness data</u></p> <p>After each training session record:</p> <p>Strengths: areas of the programme where and how personal aims and objectives have been achieved with reference to measures of success.</p> <p>Areas for improvement: where outcomes do not meet planned goals.</p> <p>Recommendations for improving future training and performance, for example personal training needs, use of different training methods/activities or strategies, use of psychological training techniques to improve performance.</p>

