Topic Lists for Revision

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| **Subject: GCSE PE** |
| **Topic or component:** |
| **Applied anatomy and physiology (Paper 1)**  **The structure and function of the Musculo-skeletal system**   * Classifications of joints * The role of ligaments and tendons in sport * Classification and characteristics of muscle types: voluntary muscles of the skeletal system, involuntary muscles in blood vessels, cardiac muscle * Location and role of the voluntary muscular system, specific functions of muscles * Antagonistic pairs of muscles (agonist and antagonist) to create opposing movement at joints to allow physical activities (e.g., gastrocnemius and tibialis anterior acting at the ankle – planter flexion to dorsi flexion)   **The structure and function of the cardio -respiratory system**   * Functions of the cardiovascular system applied to performance in physical activities * Transport of oxygen, carbon dioxide and nutrients * Clotting of open wounds * Regulation of body temperature   **Anaerobic and aerobic exercise**   * Energy: the use of glucose and oxygen to release energy aerobically with the production of carbon dioxide and water * The impact of insufficient oxygen on energy release * The by product of anaerobic respiration (lactic acid)   **The short and long-term effects of exercise**   * Short - term effects of physical activity and sport on lactate accumulation, muscle fatigue and relevance to performer * Short – term effects of physical activity and sport on heart rate, stroke volume and cardiac output and importance to performer * Short – term effects of physical activity and sport on depth rate of breathing and importance to performer * How the respiratory and cardiovascular systems work together to allow participation in and recovery from physical activity and sport: oxygen intake into lungs, transfer to blood and transport to muscles, and removal of carbon dioxide * Long – term effects of exercise on the body systems * Fast and slow twitch muscle fibres * Structure of the skeletal system * Arteries, capillaries and veins * Vascular shunting * Components of blood and their significance for physical activity * Structure and function of alveoli   **Movement Analysis – Paper 1**   * Lever systems * Planes and Axis * Joint classification and impact on movement * Lever systems, examples of their use in activity and mechanical advantage they pride in movement |
| **Physical Training (Paper 1)**   * Definitions of fitness, health, exercise and performance and the relationship between them * Components of fitness * Fitness tests: the value of fitness testing, the test protocols, selection of the appropriate fitness test for component of fitness * Collection and interpretation of data from fitness results and analysis and evaluation of these against normative data tables * Fitness tests for specific components of fitness: Cardiovascular fitness – Cooper 12 min run/swim test, Harvard Step test; agility – Illinois agility run; strength – grip dynamometer; muscular endurance – one min sit up, one min press up; speed – 30m sprint; power – vertical jump; flexibility – sit and reach * How fitness is improved * PARQ’s; warm ups and cool downs   **The Principles of Training and their application to PEP**   * Factors to consider when deciding most appropriate training methods and training intensities * Use of different training methods for specific components of fitness, physical activity and sport (continuous, fartlek, circuit, interval, plyometrics, weight/resistance * The advantages and disadvantages of different training methods   **The long-term effects of exercise**   * Long – term training effects and benefits: for performance of the cardio – respiratory system: e.g. decreased resting heart rate, faster recovery, increased stroke volume and maximum cardiac output, increased size / strength of heart   **How to optimise and prevent injury**   * Performance enhancing drugs (PED’s) and their positive and negative effects of sporting performance   **Use of data**   * Interpret data correctly |
| **Health, fitness and wellbeing (Paper 2)**   * Physical Health: how increasing physical ability, through improving components of fitness can improve health/reduce risks and how these benefits are achieved. * Emotional health: how participating in physical activity and sport can improve emotional/psychological health and how these benefits are achieved * The consequences of a sedentary lifestyle: overweight, overfat, obese, increased risk of long-term health, e.g., depression, diabetes, osteoporosis   **Energy use, diet, nutrition and hydration**   * The nutritional requirements and ratio of nutrients for a balanced diet to maintain a healthy lifestyle and optimise specific performances in physical activity and sport. * The role and importance of macronutrients (carbohydrates, proteins and fats) for performers/players in physical activity and sport, carbohydrate loading for endurance athletes and timing of protein intake for power athletes. * The role and importance of micronutrients (vitamins and minerals), water and fibre for performers/players in physical activity and sport * Optimum weight   **Sport Psychology (Paper 2)**   * Classification of a range of sports skills using the open-closed, basic (simple) - complex and low-organisation high organisation continua. * Principals of SMART targets (specific, measurable, achievable, realistic, time-bound) and the value of each principal in improving and/or optimising performance * Types of feedback to optimise performance: intrinsic, extrinsic, concurrent and terminal. * Types of guidance   **Socio-cultural influences (Paper 2)**   * Participation rates in physical activity and sports and the impact on participation rates considering the following personal factors: gender, age, socio-economic group, ethnicity, disability. * The advantages and disadvantages of commercialisation and the media for: the sponsor, the sport, the player/performer, the spectator * The different types of sporting behaviour: sportsmanship, gamesmanship, and the reasons for, and consequences of, deviant behaviour. |

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| **Strategies and Resources for Revision:** |
| * Use your revision resources in your folders * Revision guide * Revision flash cards given out for paper 1 and paper 2 * Power point presentations on teams * Exam questions on teams / class charts * [www.youtube.com](http://www.youtube.com) * Everlearn you tube videos * PE4Learning * BBC Bitesize PE |