



## PE Topic Lists for Revision

### 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 provide 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.

#### Key information

All topics in bold are advanced information from exam board, these topics will be covered in greater depth marks 4-9

All topics not in bold are likely to be multiple choice or 1 – 2 mark questions

### 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
- ☐ [www.youtube.com](http://www.youtube.com)
- ☐ PE4Learning
- ☐ BBC Bitesize PE