

Year 10 GCSE PE Revision List

Paper 1

Topic 1: Applied anatomy and physiology

3.1.1.1 The structure and functions of the musculoskeletal system

- Bones
- Structure of the skeleton
- Functions of the skeleton
- Muscles of the body
- Structure of a synovial joint
- Types of free movable joints that allow different movements
- How joints differ in design to allow movements at a joint
- 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

3.1.1.2 The structure and functions of the cardiorespiratory system

- Pathway of air
- Gaseous exchange
- Blood vessels
- Structure of the heart
- Cardiac cycle and pathway of blood
- Cardiac output, stroke volume, heart rate
- Mechanics of breathing
- Interpretation of a spirometer trace

3.1.1.3 Anaerobic and aerobic exercise

- Understanding the terms aerobic exercise (in the presence of oxygen) and anaerobic exercise (in the absence of enough oxygen)
- The use of aerobic and anaerobic exercise in practical examples of differing intensities
- Excess post-exercise oxygen consumption (EPOC)/oxygen debt as the result of muscles respiring anaerobically during vigorous exercise and producing lactic acid
- The recovery process from vigorous exercise

3.1.1.4 The short- and long- term effects of exercise

- Immediate effects of exercise (during exercise)
- Short-term effects of exercise (up to 36 hours after exercise)
- Long-term effects of exercise (months and years of exercising)

Topic 3: Physical training

3.1.3.1 The relationship between health and fitness and the role that exercise plays in both

- Health and fitness
- The relationship between health and fitness

3.1.3.2 The components of fitness, benefits for sport and how fitness is measured and improved

- The components of fitness
- 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

3.1.3.3 The principles of training and their application to personal exercise/ training programmes

- The principles of training and overload
- 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

3.1.3.4 The long-term effects of exercise

- Calculating intensities to optimise training effectiveness
- Considerations to prevent injury
- Specific training techniques – high altitude training as a form of aerobic training
- Seasonal aspects

3.1.3.5 Effective use of warm up and cool down

- Warming up and cooling down