

BTEC SPORT LEVEL 2

- 11QB

Physical components of fitness:

Speed - distance divided by time taken

Aerobic endurance - the ability for the cardiorespiratory system to work efficiently by providing the working muscles with oxygen through sustained physical activity

Muscular strength - the maximum force that can be generated by a muscle or muscle group

Flexibility - the range of movement around a joint

Muscular endurance - the ability for the muscles to contract over a prolonged period of time against a moderate to light load

Skill Related components of fitness:

Balance - the ability to maintain a stable centre of mass

Power - the work done in a unit of time (strength x speed)

Co-ordination - two or more body parts working efficiently at the same time

Agility - the ability to change direction at speed

Reaction time - the time taken to respond to a stimulus

Additional principles of training:

Specificity - training needs to be specific to the activity

Individual differences/needs - training should always meet the needs/targets/goals of the individual

Adaptation - increasing demands need to be put on the body in order for it to adapt

Reversibility - if you stop training your improvements will be reversed

Variation - you need to vary your programme to avoid boredom

Rest and recovery - you need to rest in order for the body to recover and adaptations to take place

RPE - Rate of perceived exertion (Borg scale - 6-20)

Gives an indication of how hard (exertion) an individual has worked straight away after exercise

$RPE \times 10 = \text{exercise HR (bpm)}$

e.g. if you think you have worked at 15 on the borg scale - HR should be 150bpm

Basic Principles of training

Progressive Overload - gradually increase the amount of exercise by using the **F.I.T.T**

Principles of progressive overload:

Frequency - how often you train

Intensity - how hard you train

Time - how long to train for

Type - which types of training to

Calculations:

Maximum HR = $220 - \text{age}$

To improve **aerobic endurance** you must work between the lower (60%) and upper (85%) training zone of maximum HR for the individual