

# 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