

Paper 1: Principles and types of training

Principles of training: SPORT

Specificity: Training must match the requirements of the activity so that the right muscles and body systems are adapted

Progression Overload: Gradually increasing the amount of working training so that fitness gains occur, but without the risk of injury

Reversibility: Just as fitness improves with training it can decline if you stop training

Tedium: This is the boredom that can occur when you train the same way every time. A variety of training methods are needed to keep motivated to carry on without giving up

Applying overload to the F.I.T.T principle:

Frequency: How often you train (should be gradually increased)
Week 1 = train once per week - Week 2 = train twice per week

Intensity: How hard you train (should be gradually increased)
Week 1 = 1 set of 5 repetitions of a 5 kg weight - Week 2 = 2 sets of 5 repetitions of a 5 kg weight

Time: How long you train (should be gradually increased) Week 1 = 20-minute session - Week 2 = 25-minute session

Type: Relates to specificity. training should closely match the activity. E.g. A marathon runner should use continuous training

Training intensities:

Aerobic target zone:
60% - 80% of max heart rate

Anaerobic training zone:
80% - 90% of max heart rate

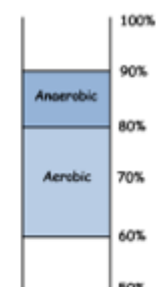
Max Heart rate:
220 - age

Strength/Power

high weight/low reps above 70% of 1 rep max (3 sets of 4/8 reps)

Muscular endurance

low weight/high res below 70% of 1 rep max (3 sets of 12-15 reps)



Types of training:

Continuous Training	Fartlek Training	Circuit Training	Interval Training	Plyometric Training	Weight Training	Static Stretching
Is sub-maximal aerobic exercise that has no breaks or rest. It lasts for a minimum of 20 minutes and can improve cardiovascular & muscular endurance	Form of continuous training that varies in pace and terrain. It is both aerobic & anaerobic and can improve cardiovascular & muscular endurance	Contains stations organised in a circuit, they can be skill or fitness based, aerobic or anaerobic Intensity is measure by circuits, time or repetitions. Can be adapted to improve all types of fitness	High intense exercise followed by periods of rest to recover Usually anaerobic can be used in a variety of locations Improves speed but can improve strength and cardiovascular	Maximal intensity involving jumping/bounding. It involves an eccentric contraction (muscle lengthens) immediately followed by a concentric (muscle shortens) Improves power (speed & strength)	Form of interval training which involves reps and sets. The weight provides the resistance. Can be done using free or fixed weights. It improves strength, power and muscular endurance	Stretch as far as you can. The stretch is held (isometric) for up to 30 seconds. It Can be done on your own, with apparatus or with a partner. Improves flexibility
Advantages	Advantages	Advantages	Advantages	Advantages	Advantages	Advantages
No equipment or facilities Has many health benefits (CHD) Can be done on your own	No equipment or facilities Change of pace can be more interesting Can be done on your own	Variety of stations generates interest Can be skill or fitness Can easily be adapted	Can be used to improve health and fitness (aerobic & anaerobic) No equipment needed	Develops power quickly No equipment	Can target specific areas of the body	Develops flexibility
Disadvantages	Disadvantages	Disadvantages	Disadvantages	Disadvantages	Disadvantages	Disadvantages
Boring No change of pace Can cause impact injuries	High intensity can be avoided A safe route may be hard to find	Equipment can be costly Can be time consuming to set up	Can be repetitive and boring Need to plan and keep track of sets	Can cause injury due to high intensity	Can cause injury with poor technique a spotter needed with free weights Can be expensive	Not as effective as other stretching methods and can take a long time to go through all muscle groups
Sports	Sports	Sports	Sports	Sports	Sports	Sports
Marathon running Cycling Swimming	Football Rugby Netball	Can be adapted to suit all sports	Usually for speed It can be adapted to other sports	Basketball Long jump Hurdles	Weight lifting, tennis (muscular endurance)	Most sports and activities benefit from static stretching
						