

Preparation of the Body

In this area of the course you will try to improve your performance in the activities in your course by

Analysing your performance

Assessing your fitness

Developing aspect(s) of fitness

To plan for performance improvements in different activities it is useful
To collect information from your actual performance about your overall fitness.

This information can tell you about your strengths and weaknesses
In your PHYSICAL, SKILL RELATED and MENTAL fitness

Gathering information about your fitness

You can gather information about your fitness from

Within the activity
or

Out with the activity

How could you gather information about your fitness from WITHIN
The activity ?

VIDEO your performance in a demanding game

ANALYSE your performance using an OBSERVATION SCHEDULE

The observation schedule could focus on your MOVEMENTS

Throughout the game or your SKILL SUCCESS rate

How could you gather information about your fitness from OUTWITH
The activity?

Use a STANDARDISED FITNESS TEST

Standardised Fitness tests

There are many FITNESS TESTS

Fitness tests exist for all ASPECTS OF PHYSICAL FITNESS

For example

Cardio respiratory fitness - Harvard step test

Chester step test

12 minute Cooper test etc

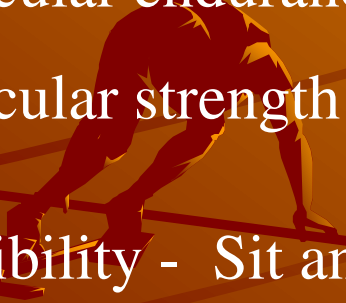
Muscular endurance - Number of Sit –ups in 1 minute

Muscular strength - Number of pull-ups

Flexibility - Sit and reach test

Speed - 10 metre shuttle run
50 metre sprint

Power - Standing long (broad) jump



Question

Describe in detail two methods of gaining information
About you physical fitness from within an activity of your choice



Key Concept 2

Application of different types of fitness to
develop activity specific performance

Eg. Different types of fitness are needed for different activities

When attempting to improve your Fitness levels to improve your
Performance levels you need to consider the the different
Performance Related Fitness Requirements

To improve performance related fitness you need to take into
consideration

TYPE OF ACTIVITY and

YOUR ROLE WITHIN THE ACTIVITY

Once you have considered these factors you are then able to set
REALISTIC TRAINING GOALS which will help to improve
Your performance



Approaches to improve performance related fitness

You can either train WITHIN the ACTIVITY or OUTWITH
The activity

Training WITHIN the activity is known as CONDITIONING

Training OUTWITH the activity is known as FITNESS TRAINING

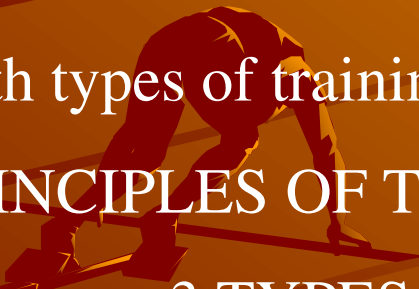
Both types of training can be successful as long as they follow certain
PRINCIPLES OF TRAINING

There are 3 TYPES OF FITNESS

PHYSICAL FITNESS

SKILL RELATED FITNESS

MENTAL FITNESS



Developing fitness

You can develop PHYSICAL FITNESS by training through the activity

- Conditioning

- eg. Dribbling practice which is done quickly would Develop SPEED

Or by training outwith the activity

- Fitness training

- eg. Circuit training could develop SPEED

You can develop SKILL RELATED FITNESS by training through

The activity

- Conditioning

- Eg. Dribbling through cones placed close together would develop AGILITY

Or by training outwith the activity

- agility ladders, cones, hoops etc. would also develop AGILITY

You can develop ASPECTS OF MENTAL FITNESS by taking part in

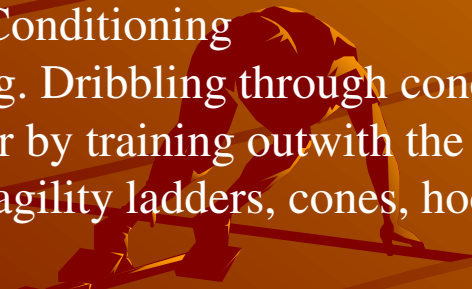
The activity

- Conditioning

Learning to manage emotions

Or outwith the activity

- mental rehearsal, imagery



Key concept 3

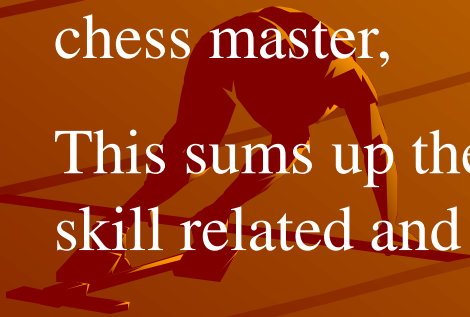
Aspects of physical, skill related and mental fitness

In this Key Concept you examine in detail the main aspects of Physical, skill related and mental fitness, how they relate to one another and how they can be developed in a training programme.

To be successful in an activity it is often said that you need 'the body of an athlete, the touch of a craftsman and the mind of a chess master,

This sums up the need for top class performers to possess physical, skill related and mental aspects of fitness.

For example, to be able to perform a successful back flip you require Flexibility(physical), co-ordination(skill related) and mental rehearsal (mental).



Aspects of Physical fitness

The main aspects of physical fitness are

Cardio respiratory endurance

Muscular endurance

Muscular strength

Flexibility

Speed

Power



Cardio respiratory endurance

Cardio respiratory endurance is the ability of the body to supply Sufficient Oxygen to the working muscles to enable them to continue To operate.

Vital parts of the cardio respiratory system are the

Heart
lungs
arteries
veins



Muscular endurance

Effective muscular endurance is the ability of a muscle, or group of muscles, to repeat an action many times.



Muscular strength

Muscular strength is the maximum amount of force a muscle, or Group of muscles, can exert in a single effort.



Flexibility

Flexibility is the range of movement possible at a joint.



Speed

Speed is how quickly you can move your whole body or part of your body from one place to another.



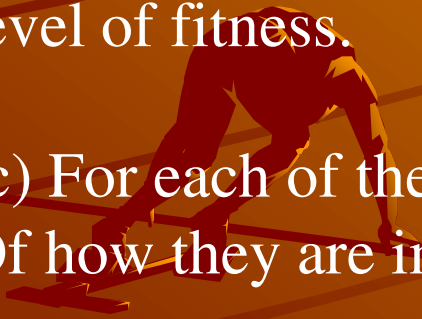
Power

Power is the combination of strength and speed



Question

- (a) List the main aspects of PHYSICAL FITNESS.
- (b) For each of the aspects of PHYSICAL FITNESS listed above
State a standardised fitness test which you could use to assess your
level of fitness.
- (c) For each of the aspects of PHYSICAL FITNESS give an example
Of how they are important to your performance in a range of activities.



Aspects of SKILL RELATED FITNESS

All aspects of SKILL RELATED FITNESS have an important Role to play in preparing the body for successful performance In an activity. All of these aspects can be improved by training – either within the activity - **CONDITIONING**. Or out with the activity - **TRAINING**

It is important that you understand these aspects of fitness and do not confuse them with Skills and techniques.

Agility – is the ability to move the body quickly and precisely. Eg. In hockey you need agility to be able to run fast and maintain control of the stick and the ball

Reaction time – is the time taken between the recognition of a signal and the start of your movement. Eg. At the start of a 100m race. You hear the gun and then you have to move

Balance is the ability to maintain the centre of gravity above the base of support. Static balances require You **HOLD** a position. Dynamic balance requires you to maintain balance in ever changing circumstances Eg. When dribbling through opponents on a basketball court.

Timing is the ability to perform skills at exactly the correct time and with the right degree of emphasis. Eg. When tackling in football it is important to time the tackle properly.

Co-ordination is the ability to control movements smoothly and fluently. Groups of muscles must work In sequence to produce an effective movement. Eg you need to link together the parts of a backflip in a co-ordinated way in order to perform the skill Effectively.

Movement anticipation is the ability to accurately predict the next movements that you will need to make Eg. The ability to ‘read’ what shot your opponent is going to play and moving into position quickly to return

Question

- (a) List the main aspects of SKILL RELATED FITNESS
- (b) For each of the aspects of skill related fitness given state their Importance to your performance. Illustrate your answer with specific examples from your course



Aspects of MENTAL FITNESS

Aspects of MENTAL FITNESS include

Level of arousal

Mental rehearsal

Managing emotions



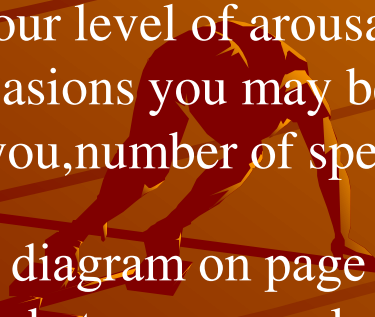
Level of arousal

Your level of arousal affects how well you perform. Your level of arousal needs to be 'JUST RIGHT' for you to perform to the best of your ability.

If your level of arousal is low then you will not perform to your highest level. On these occasions you may be disinterested, tired, bored or have other issues on your mind.

If your level of arousal is too high, again you will not perform to your best. On these occasions you may be stressed because of the importance of the occasion, expectations on you, number of spectators etc.

The diagram on page 45 of the INVERTED 'U' THEORY OF AROUSAL explains the Link between your level of arousal and your level of performance

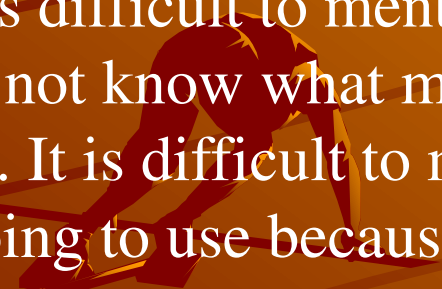


Mental rehearsal

Mental rehearsal is running through in your mind, what you need to do to Perform well, before you actually perform the skill.

This tends to be used most in activities where you have a lot of control Over the speed and pace of your performance – closed skills –
Eg . Serve in badminton, Free shot in basketball.

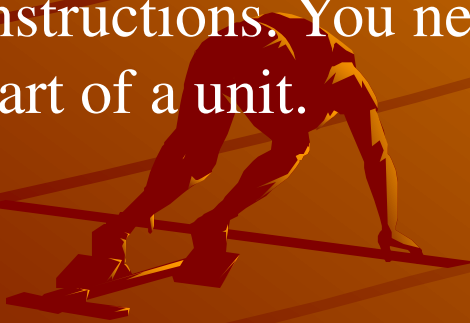
It is difficult to mentally rehearse a movement when you do not know what movement you are going to have to make.
Eg. It is difficult to mentally rehearse which return of serve you are Going to use because you do not know which serve your opponent is Going to perform



Managing your emotions

Managing your emotions means controlling your feelings in demanding Situations. You need to be able to concentrate on what you are about to Do and not be distracted

Managing your emotions is also important when you are part of a team. You need to be able to listen to others and accept criticism and Instructions. You need to be able to keep your discipline and shape as Part of a unit.



Question

- (a) List the aspects of mental fitness
- (b) For each of the aspects named explain how your performance in a range of activities could be affected, either positively or negatively, by these factors



Key concept 4

Principles of Training and Methods of Training

In this key concept you look at in detail relevant PRINCIPLES OF TRAINING

And

Methods of training to develop FITNESS

For a training programme to be effective you need to ensure that the programme that you design
Takes into consideration the following PRINCIPLES (rules)



SPECIFICITY

PROGRESSIVE OVERLOAD

REVERSIBILITY

You also look at the main methods of developing FITNESS (physical, skill-related and mental)

Continuous

Fartlek

Circuit

Weight

Interval

Flexibility

Skill related fitness training methods

Mental fitness training methods

Principles of training

SPECIFICITY

The training that you do has to be SPECIFIC to your needs. It has to be Relevant to your present level of FITNESS, relevant to the ACTIVITY And relevant to your ROLE in the activity

It must meet your
PERFORMANCE RELATED FITNESS REQUIREMENTS



Principles of training

PROGRESSIVE OVERLOAD

Progressive overload means that you have to keep adding to the physical Demands of your training programme. As your body gets used to the Present level of work that you are doing you need to add to the work that You ask your body to do - OVERLOAD

You must do this in a systematic and increasing way - PROGRESSIVE

PROGRESSIVE OVERLOAD

Your body will ADAPT to meet the new demands that your new training Programme is forcing it to perform and your fitness level will INCREASE

There are 3 ways that you can provide PROGRESSIVE OVERLOAD

FREQUENCY

INTENSITY

DURATION



Frequency

Frequency means how **OFTEN** you have a training session

How often you train depends on your initial level of fitness and the Demands of the activity and your role in the activity



Intensity

Intensity means how HARD you work in any training session

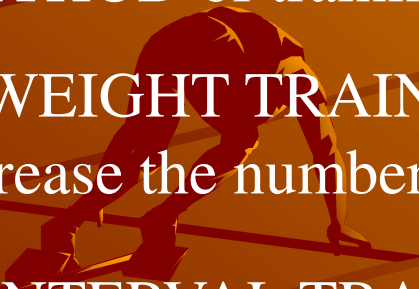
Again how HARD you need to work depends on your fitness level,
The demands of the activity and your role in the activity

You can increase the level of intensity in many ways, depending on the
METHOD of training you are doing.

In WEIGHT TRAINING you can increase the WEIGHT you are lifting or
Increase the number of times you lift the weight - REPETITIONS

In INTERVAL TRAINING you could RUN FASTER or DECREASE
The TIME between the RUNS

In CONTINUOUS TRAINING you could run for LONGER
or run FASTER



Duration

Duration means the LENGTH OF TIME a training session or a Training programme lasts for.

Again this is dependant on your present level of fitness, the demands of the activity and your role in the activity

For instance you could run for a longer time if you were trying to develop C.R.E.

A silhouette of a person in a starting crouch on a track, positioned to the left of the word 'or'.

or

You could have a longer training programme to continue to develop other Aspects of fitness.

Eg. A 10 week programme instead of an 8 week programme

Reversibility

If you STOP training then your body will revert to the state it was in Before you started training.



Question

- (a) Name the 3 Principles of Training
- (b) Explain what each Principle of Training means
- (c) Explain how you would use these Principles of Training when Designing an effective Training Programme to develop an aspect of Physical fitness



Methods of training

The most important METHODS of training PHYSICAL FITNESS are
Continuous training

Fartlek training

Circuit training

Weight training

Interval training

Flexibility training



Continuous training

Continuous training is where you undertake any 'aerobic' type exercise

Eg. Running, cycling, swimming, rowing, dancing etc.

These exercises can be performed indoor, outdoor or in water.

If this form of training is done for a minimum of 20 minutes at a time,
With your heart rate in your TRAINING ZONE and performed at
Least 3TIMES per week then there will be a positive training effect
On your C.R.E.

This type of training is easy to plan, requires little equipment and can
Be inexpensive

Progressive overload can be provided by training more often,
training faster and
Training for longer

Fartlek training

A Swedish word which means SPEED PLAY

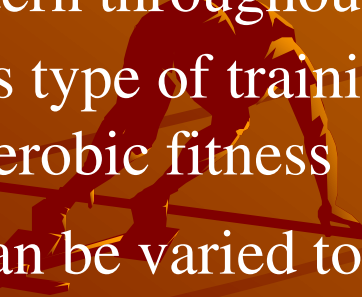
You can perform any of the forms of the types of exercise you used in Continuous training but this time you deliberately VARY the PACE of the exercise

Eg. You may run faster with short bursts of speed and then recover by Running slower for a period of time. You would repeat this sort of Pattern throughout your training session

This type of training will improve your CRE and also your anaerobic fitness

It can be varied to suit your requirements.

Progressive overload can be provided by increasing FID



Circuit training

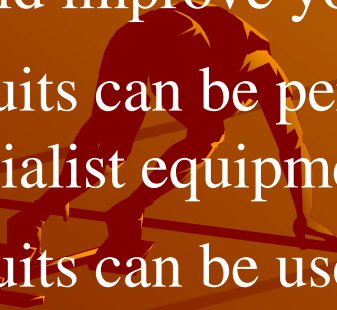
Circuit training is where you have a fixed circuit of exercises designed To exercise the major muscle groups of the body and to develop Different aspects of fitness

Eg. In a circuit you may be performing press-ups to improve muscular Endurance in your arm muscles and you may also be running which Would improve your CRE

Circuits can be performed indoor or outdoor and usually require little Specialist equipment

Circuits can be used to develop general fitness or can be tailored to Develop specific aspects of fitness or specific muscle groups

You can provide progressive overload by FID



Weight training

Weight training involves moving weights through the range of Movement.

When a muscle contracts and moves this is known as isotonic contraction

Usually weight machines tend to be located indoors in purpose built Fitness suites. Free weights can sometimes be found in outdoor areas, but again are more often found in gyms or halls

Weight training can develop general or specific muscle groups

Weight training can develop muscular endurance or muscular strength

Muscular strength = high weights X low repetitions

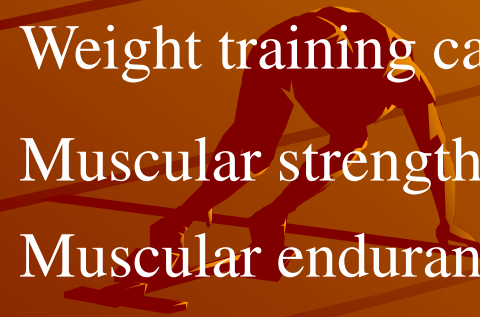
Muscular endurance = low weights X high repetitions

It is easy to work out personal values for exercises eg. Find out Max. lift

Then take 40-50% of max X high reps to develop muscular endurance

Progressive overload can be provided by increasing weight or

Increasing repetitions



Interval training

A form of training where you work then rest

It is particularly suited to high intensity work which does not leave you totally fatigued.

After you have done some work you then have a rest INTERVAL.

This interval should be of sufficient length that you are completely Recovered and your next work session can be high intensity.

An example of INTERVAL TRAINING would be when it is used to Develop sprinting speed.

You sprint - then have a rest interval until you are completely recovered

You are then able to repeat the sprint session at the same level of intensity

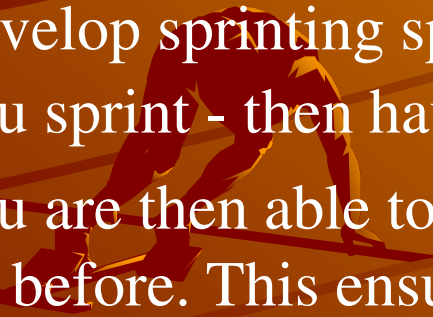
As before. This ensures that all your work is suitably demanding to

Improve you speed.

You can provide overload by doing the session more often (frequency)

Sprinting faster or taking shorter intervals (intensity) or by training for

Longer (duration)



Flexibility training

Includes flexibility or mobility exercises which allow active or passive stretching of muscles,

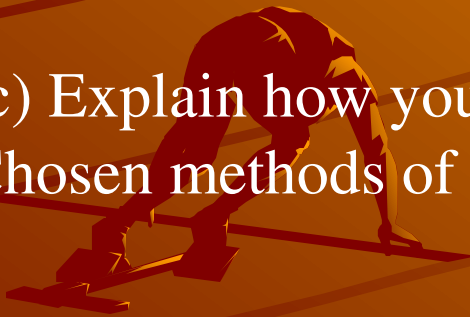
These exercises are designed to improve the range of movement around a joint

Progressive overload can be provided by carrying out the programme more often (frequency) stretching and mobilising at a more advanced level (intensity) or by exercising for longer (duration)



Question

- (a) State the different methods of training used to develop Physical fitness
- (b) Choose two aspects of Physical fitness and explain which methods of training would be most suited to developing your chosen Aspects of fitness
- (c) Explain how you would provide progressive overload in each of your Chosen methods of training



Skill related fitness training methods

You can train aspects of skill related fitness both within the activity
-conditioning approach

And out with the activity – training session

Conditioning approach - You could use some of the skills of the game, in demanding practice situations, to improve your skill related fitness.

Eg. In a 3v2 passing practice you could be developing the skills of passing and receiving and at the same time be improving your TIMING

A practice where you are dribbling in tight situations would develop AGILITY and CO-ORDINATION

A practice where you have to set a screen for a team mate would develop your MOVEMENT ANTICIPATION skill

You can also develop skill related aspects of fitness by doing training exercises eg agility ladders, reaction drills etc.

Mental fitness training methods

You can use mental practice and techniques before your performance, During performance and after performance to enhance your performance.

Before performance – you can rehearse in your mind how you are going To perform in the activity to come. You will want to create a relaxed, Positive frame of mind. The more often you practice this the more Effectively you will be able to control your emotions.

During the activity you may use various techniques to enhance your Performance. Again you may use imagery to accurately rehearse a skill that you are about to perform. You may use breathing techniques to Manage your emotions. You may use ‘triggers’ - visual ,verbal or Physical to begin or end a part of your performance. Practicing these Techniques will make them more effective.

After the activity you can reflect on your performance. This is obviously A mental activity and can help to shape future performances. Again this Skill improves with practice.

Question

(a) Name the aspects of mental fitness

(b) Choose two aspects of mental fitness.
Explain **HOW** you used each aspect to improve you performance.



Key concept 3

Planning, implementing and monitoring training

In this key concept you examine in detail the phases of training or training Cycles and their relationship to performance development.

We also look at the importance of planning and monitoring progress.

You will often PLAN and IMPLEMENT a personalised training Programme which is designed to improve aspects of fitness. By improving These aspects of fitness you hope to improve your PERFORMANCE In your chosen activity.

This training programme will usually be PROGRESSIVE in order to Bring about continuous improvement .

When you are planning a training programme which spans a long period Of time it is often best to structure the training programme using PERIODISATION – which means breaking down the programme into 3 phases – PREPARATION – COMPETITION – TRANSITION.

Preparation period

In this period you would do PRE-SEASON TRAINING

You would do a general training programme . As you get nearer to the COMPETITION PHASE then the training would become more SPECIFIC to your fitness needs, the nature of the activity and your role Within that activity.

The training programme would also increase in INTENSITY the closer to the competition period you got.



Competition period

During the COMPETITION PERIOD you MAINTAIN your levels of PHYSICAL and SKILL RELATED fitness.

Your aim is to ensure that you can benefit from your PRE SEASON training

There may be certain times during the COMPETITION PERIOD that you May wish to 'PEAK' your performance for A SPECIAL PERFORMANCE.

When you 'PEAK' your performance you 'FINE TUNE' your preparation To ensure your fitness is at its OPTIMUM level. This will involve a Period of OVERLOAD followed by a TAPERING DOWN of your training before the performance to avoid any Fatigue from your TRAINING PROGRAMME

TRANSITION PERIOD

Following the end of the COMPETITION period you need a period of ACTIVE REST

This is the period between the COMPETITION period and the PREPARATION PERIOD

This period marks the end of one season and the beginning of the next

It is generally thought to be beneficial to have a break from competitive Activity.

However it is important to retain a level of general fitness during this time

See graphs on page 54



Training 'Cycles'

Using training cycles you can ensure that your training matches the requirements or periodisation

The terms microcycle, mesocycle and macrocycle are used to describe exactly what your training would include during particular periods.

Microcycle describes your training sessions over a SHORT TERM period
Eg. Describe one week's training sessions in detail.

Mesocycle would describe your training pattern over the medium term.
This would be less detailed than the microcycle but may contain information like the number of training sessions per week

Macrocycle would describe your training over a longer time. This could contain information about special events, tapering down etc.

Monitoring fitness

When monitoring your progress during training programme you can use Some of the methods used before to observe your performance.
You could use Video, Observation schedules, Fitness tests etc.

You could use a TRAINING DIARY to keep a written record of the Training sessions that you do and record your thoughts and feelings after You have completed the session.

Reviewing this diary will let you know how you are progressing and when it may time to increase the demands of your programme

A silhouette of a person in a starting crouch on a track, positioned to the left of the text.

PROGRESSIVE OVERLOAD.

Question

- (a) What is meant by periodisation ?
- (b) Describe what you would do to your training when approaching an important performance.
- (c) Complete the following paragraph

Use each word once

TAPER FATIGUE COMPETITION PROGRAMME

In a periodised year, before a _____ you begin to _____ down
Your training _____.
This takes place to ensure that the fitness benefits of your training
programme are not lost due to _____.

