

# Components of Fitness

***Fitness is the ability to meet the demands of your environment and still have some energy left for emergencies.***



# There are **five** components of Health Related Fitness;

## **1. Endurance/ Cardio-Vascular Fitness.**

***'This is the ability to exercise the whole body for long periods of time without tiring'***

- E.g. jogging, swimming & cycling.
- Cardiovascular means heart and blood vessels. These are responsible for transporting oxygenated blood around the body.



## 2. Muscular Endurance.

***'The ability of muscles to maintain and repeat contractions without tiring'.***

- In boxing, arm muscles are contracted continuously.

## 3. Strength.

***'This is the amount of force a muscle can exert against a resistance.'***

- Too little strength will result in failure or injury when insufficient force is exerted upon an object.
- E.g. Not exerting enough power during a scrum leads to loss of the scrum.



## **4. Flexibility.**

***'This is the range of movement possible at a joint.'***

- Poor flexibility leads to injury to tendons and ligaments, especially in violent movements.


## **5. Body composition.**

***'This describes the relative percentages of fat, muscle and bone in our bodies.'***

- Too much fat for example can lead to disease in later life.



# Health Related Fitness.

- ◆ General fitness is sometimes known as Health Related Fitness.
  - ◆ We need a certain level of cardiovascular and muscular fitness to get on with our every day lives.
  - ◆ For high level sport however, a higher level of fitness is required.
  - ◆ At this point the type of fitness you require is SPECIFIC to the sport you follow.
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# There are **six** components of Specific or Skill Related fitness.

## **1. Power:**

- ✦ **'The ability to carry out an explosive movement by combining SPEED and STRENGTH.'**
- E.g. Karate chop.

## **2. Agility:**

- ✦ **'The ability to change body position quickly whilst in control'**
- E.g. Dodging.

## **3. Coordination:**

- ✦ **'The ability to move 2 or more body parts at the same time to complete an action.'**
- E.g. Golf swing



#### **4. Reaction Time:**

*'The ability to react quickly to a given stimulus.'*

- E.g. Start of a race.

#### **5. Speed:**

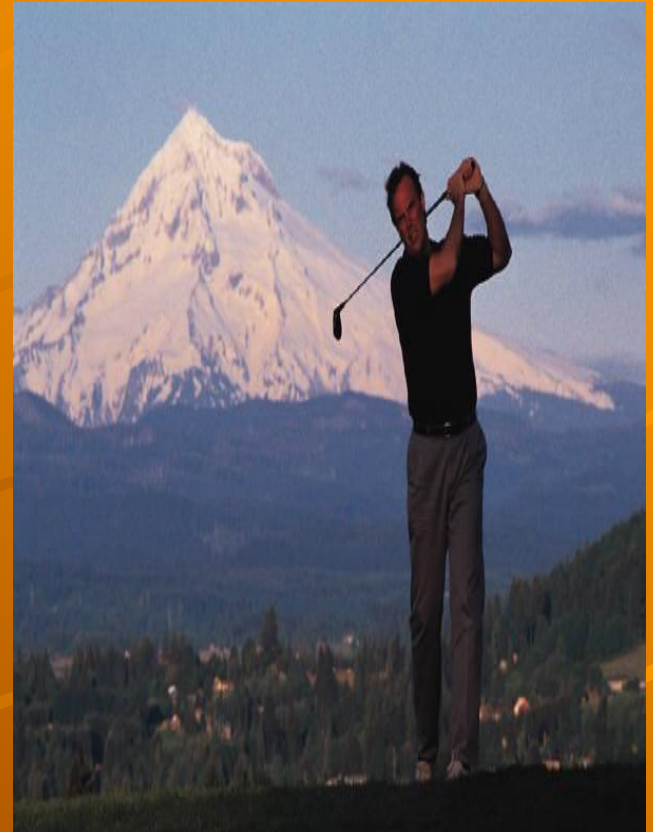
*'The ability to carry out a movement in the quickest time possible.'*

- E.g. Sprinting.

#### **6. Balance:**

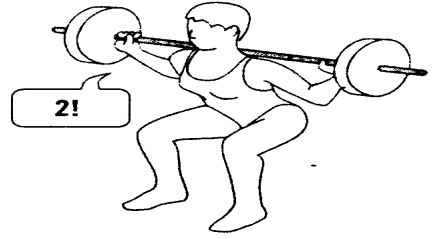
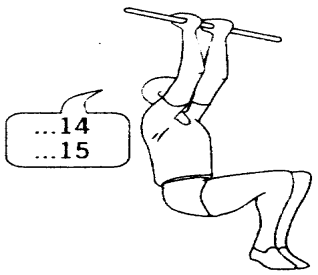
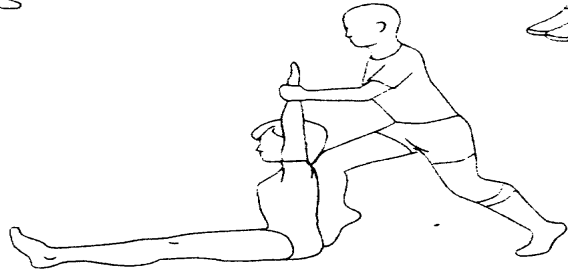
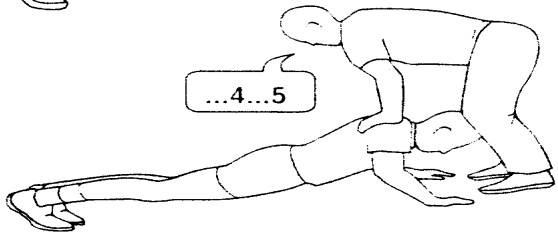
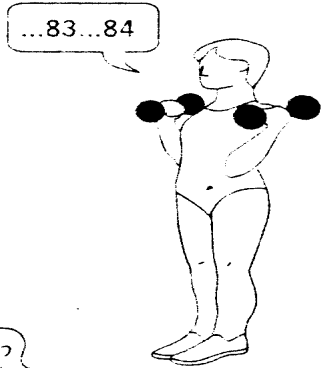
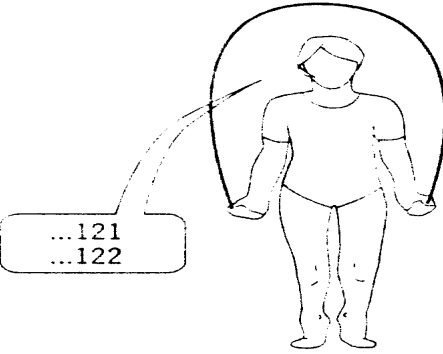
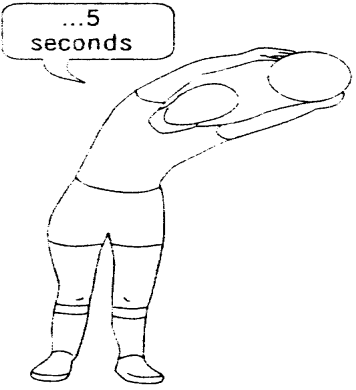
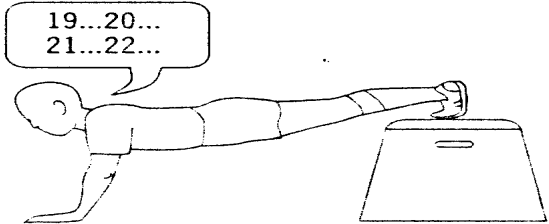
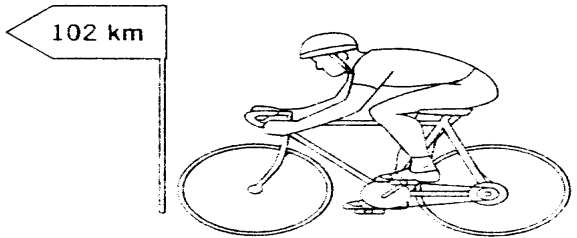
*'The ability to retain the centre of mass above the base of support.'*

- E.g. Gymnast on a beam



For each of the activities below:

- a) what kind of fitness is being improved
- b) name two effects it will have on your body
- c) name two sports where it will help you.





# Fitness Testing

## Cardiovascular Endurance

◆ Multistage Fitness Test/Bleep Test

◆ Cooper 12min Run

◆ Harvard Step Test



# Muscular Endurance

◆ Sit up test (NCF)

◆ Press up test  
(1min)



# Speed & Agility

◆ 30m Sprint Test

◆ 5m Agility Run (5m cone intervals)

◆ Illinois Agility Test

◆ 100m Sprint.



# Some more tests:

- ◆ **Flexibility** ( Sit and Reach )
- ◆ **Balance test** ( Stork Stand)
- ◆ **Reaction time** ( Ruler Drop Test )
- ◆ **Muscular Strength** (Grip Dynamometer)
- ◆ **Power** ( Sergeant Jump/Broad Jump )
- ◆ **Co-ordination** (Tennis Ball against the wall)



# Factors Affecting Fitness.

## 1. Age

You are usually fittest in your twenties. From 30s onwards, body fat increases and muscles get weaker.

## 2. Gender

Up to about 11 males and females are similar in levels of fitness. However after that, hormones, bone structure and body composition all vary greatly.

## 3. Physique

Your build and shape make some sports easier than others. Mr Preston could never be a basketball player, Mr Wright could never be a power lifter.

#### **4. Diet**

If you don't eat the right foods, your body won't repair or grow properly.

#### **5. Exercise**

Exercise will always make you fitter.

#### **6. Physical disability**

Although this means part of the body doesn't function properly, the rest of the body is still fully able.



## 7. *Drugs*

Alcohol, cigarettes and other substances alter your fitness.

## 8. *Stress*

Exams, money worries, quarrels etc all take there toll on your body. Short term stress can affect performance, long term it can kill you.

## 9. *Environment*

City living over time will damage your lungs. High altitude makes it more difficult to breath. Hot climates cause dehydration.

