

6.3.1 Distinguish between the concepts of health-related fitness and performance-related (skill-related) fitness

- The components of fitness relate to the _____ of a given sporting activity, and can help to explain success or _____ in sport.
- A distinction can be made between components that are generally considered to be _____ **related** (health benefits may be gained through improvements in these components), and those that are _____ **related**, although both will affect performance in sport.
 - **Health related** factors are _____ based and determine the ability of an individual to meet the physical demands of the activity.
 - **Skill related** factors are based upon the _____ system and determine how successful a person can perform a specific skill
- Both health and skill related are _____ in all activities, but the relative _____ of each dimension may differ.
 - For example, a person may be physically suited to tennis, possessing _____, endurance and strength requirements, but may not _____ the hand eye coordination to strike the ball successfully. In this instance the individual may be more suited to an activity such as distance running that requires fewer skill related components.

6.3.2 Outline the major components of fitness

- **Strength**
 - **Relates to the ability of the body to apply a force.** The recognized definition of strength is, *the _____ force that can be developed in a muscle or group of muscles in a single maximal contraction.*
 - However, it is how we apply strength that is important in the sporting context. Three classifications have been identified:
 - _____ **strength**: an athlete who requires a very large force to overcome a resistance in a single contraction *e.g. weight lifting*
 - _____ **strength (Power)**: an athlete who requires to overcome resistance rapidly yet prepare the muscle quickly for sequential contraction *e.g. sprinting, triple jump*
 - _____ **endurance**: an athlete who is required to undergo repeated contractions and withstand fatigue *e.g. rowing, swimming*
- **Local Muscle Endurance**
 - Is the ability of a particular _____ group to keep working at the desired **level of effort for as long as the situation _____.**
 - It is often controlled by the body's tolerance of the increasing levels of _____ acid which the activity creates. It is of high importance in:
 - The arms in a 200m swim.
 - The legs in a marathon
 - The _____, abdominals and quadriceps in a 2000m rowing race.

- **Speed**

- **The ability to put body parts into motion quickly, or the _____ rate that a person can move over a _____ distance.**
- It is a major factor in high _____ explosive activities such as sprinting, vaulting in gymnastics or fast bowling in cricket.
 - However, it is not simply concerned with the _____ at which a person can move his/her body from A to B. It also involves putting limbs into action rapidly, such as with the throwing of the javelin.
- It is _____ determined by fast twitch fiber composition, with body mechanics and leverage also playing a role.



- **Power**

- **Is the _____ of strength and speed.** A powerful movement is achieved _____ as possible, while imparting as much strength as possible. It is of high importance in:
 - Tackling in rugby or football.
 - Spike in volleyball
 - Drive in golf

- **Cardio-respiratory fitness (_____ capacity)**

- Is dependent upon the ability of the cardiovascular system to transport and utilize _____ during sustained exercise. It can be defined as:
 - *the ability to _____ and sustain energy aerobically.*
 - Cardio-respiratory endurance is the _____ of _____ that underpins all aerobic activities which include long distance _____, cycling or _____ as well as being a contributing factor to many other sporting situations.



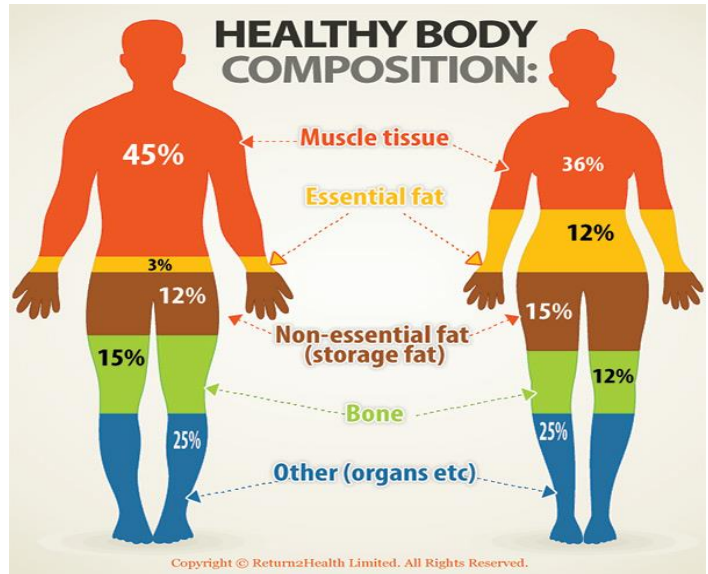
- **Flexibility**

- the range of _____ at a joint.
 - It is determined by the _____ of ligaments and tendons, the strength and _____ of surrounding muscles and the shape of _____ bones.
 - Although it is commonly associated with gymnastics, it is in fact a requirement in all sports since the _____ of flexibility can lead to both an _____ in speed and power of muscle contraction.

- **Body Composition**

- The component parts of the body in terms of the relative amounts of body fat _____ to lean body mass.

- For the average 18-year-old, men range from _____%, while woman range from 24-29%.
 - For the athlete high body fat can result in a _____ in muscle efficiency and contributes to greater energy expenditure since more weight _____ more energy to move around and a consequent increase in oxygen consumption.



- **Skill/motor fitness**

- Involves the components of _____ that are skill related. These include speed and power, as well as _____, balance, coordination and reaction time.

- **Agility**

- The ability to move and change _____ and _____ of the body quickly and effectively while under control.
 - With reference to this definition we can see that many factors are involved in agility, including _____, coordination, speed and flexibility.
 - It is required in a range of activities from tumbling in gymnastics to receiving serves in volleyball. **Although activities can be undertaken to improve agility, development of this skill related component is limited.**

- **Balance**

- The maintenance of the _____ over the base of support. This can be while the body is static or dynamic (moving).
 - It is an integral component in the _____ performance of most motor skills. In gymnastics, for example, it may be required to perform a balanced position when performing a handstand (static). Or when staying on feet in a rugby tackle (dynamic).



- **Coordination**

- The _____ of the motor and nervous systems and is the ability to perform motor tasks accurately and effectively.

- When serving in tennis for example, the tennis player must _____ the toss of the ball with one hand with the _____ of the ball with the racket head at the optimum position.
- A _____ performing breast stroke must _____ the pull of the arms with the strong kick phase to ensure effective _____.

- **Reaction time**

- The time taken to initiate a response to a given _____.
- The stimulus may be _____, for example, in responding to a serve in tennis, or _____ in responding to a gun in athletics or verbal guidance from players and coaches.
- Reaction time is _____ upon the ability of an individual to process information and initiate a response by the neuro-muscular system. **It can be _____ through training.**

