

Aerobic Endurance
 The ability of the cardiorespiratory system to work efficiently, supplying nutrients to the working muscles. This is needed for long distance events.

Muscular Endurance
 The ability of muscles to work repeatedly against a light to moderate load without getting tired.

Speed
Accelerative speed: This is the speed generated in order for a performer to be at their top speed. Eg- long jump run up
Pure speed: This is needed for events that are won by achieving the quickest time. Eg- 100m sprint
Speed endurance: This is an athlete's ability to sustain speed over a long period of time with short recovery periods. Eg- a footballer

$$\text{SPEED (m/s)} = \frac{\text{DISTANCE TRAVELLED}}{\text{TIME TAKEN}}$$

AEROBIC- in the presence of oxygen (long distance events)
ANAEROBIC- without oxygen (short distance or power events)

Muscular Strength
 The maximum force that can be generated by a muscle or group of muscles. Weights will be heavy and therefore repetitions are low.

Body Composition
 This is the combination of muscle, fat and bone.
 EcTomorph- Tall and Thin
 EnDomorph- Short and Dumpy
 Mesomorph- Muscular

Flexibility
 The ability to move a joint fluidly through a complete range of movement.
 Some sports require all round flexibility whereas some sports require flexibility at specific joints.

Coordination
 The ability to use body parts together accurately. This is needed in most sports.
HAND-EYE coordination
FOOT-EYE coordination
HAND-HAND coordination

Unit 1 @LWarnerPE
Learning Aim A- Components of Fitness

Components of physical fitness	Components of skill related fitness
Aerobic endurance	Agility
Muscular endurance	Balance
Flexibility	Coordination
Speed	Power
Muscular strength	Reaction time
Body composition	

Power
 The ability to use strength at speed.
 Therefore the faster or stronger a motion, the more powerful it will be.

$$\text{POWER} = \text{STRENGTH} \times \text{SPEED}$$

Balance
 The ability to maintain the centre of mass over a base of support.
STATIC BALANCE- maintaining a balance whilst stationary. Eg- handstand
DYNAMIC BALANCE- maintaining a balance whilst in motion. Eg- cartwheel

Reaction time
 The time taken for a performer to respond to a stimulus. Eg- sprinter

Agility
 The ability to change direction quickly. Eg- rugby players

