

KS3 Theory Knowledge

Components of Fitness and Principles of Training

Year 7, 8 & 9 must know this!

These are all of the Components of Fitness

Definition of fitness: the ability to meet the demands faced on you by the environment.

This means there are different ways to be fit. For example a marathon runner is fit for their activity like a weightlifter is fit for theirs.

Agility

Coordination

Balance

Cardiovascular
Endurance/Stamina

Muscular Endurance

Flexibility

Power

Reaction Time

Speed

Strength



Components of fitness

Component of fitness	Definition/ Meaning	Example of sports performer	Fitness test
Cardiovascular endurance	The ability of the heart and circulatory system to meet the demands of the body for a long period of time.	A marathon runner	12 minute cooper run (How far you can run in 12m).
Agility	The ability to change direction at speed.	A football player	Illinois agility run (a timed run designed/ set up to make you change direction).
Muscular endurance	The ability to move your body and muscles repeatedly without <i>fatiguing (tiring)</i> .	A gymnast	1 minute press up test (Max number of press ups in 1 min).
Speed	The ability to move quickly across the ground or move limbs rapidly through movements.	A sprinter	30m sprint test (timed 30m sprint).
Strength	The maximum force that muscles can apply against a resistance	A weightlifter	1 rep max test (The heaviest weight you can lift in one go i.e. rep).
Power	Power is a combination of strength and speed.	A boxer	Standing broad jump (how far you can jump from two feet without a run up).

Components of fitness continued

Component of fitness	Definition/ Meaning	Example of sports performer	Fitness test
Balance	The ability of the performer to retain their centre of mass over their base of support without falling.	Shooter in netball trying not to step off court.	Standing Stork test (standing on one leg, on the ball of your foot with heel lifted off the floor and hands on hips for as long as possible. This is timed).
Co-ordination	The ability to move two or more body parts at the same time.	A rugby player in order to run whilst catching the ball.	Alternate ball throw test (stand 5m away from a wall with a tennis ball in right hand, throw it against the wall and catch with left hand, then throw against the wall with left hand and catch with right hand. The result is the number of catches you get in 1 minute).
Reaction time	The time between the presentation of a stimulus and movement.	A sprinter reacting to the start gun.	Ruler drop test (someone else holds a ruler and with your finger and thumb you hover over 0cm without touching the ruler. The person drops the ruler and whatever cm you catch at is your score).
Flexibility	The range of movement available around a joint.	A dancer	The sit and reach test (you sit with both legs together and straight against a bench and measure how far you can reach forward with your arms, keeping your legs straight)

Year 8 & 9 must know this!

These are the types of training

- Continuous
- Fartlek
- Interval
- Circuit
- Weight
- Plyometric training



Types of Training

Type of training	What is it?	Sporting example
Continuous	Training at the same speed throughout without stopping and doing the same activity for the full session. For example running	A marathon runner would need to do lots of this.
Fartlek	This is training at different speeds and on different surfaces. For example running at different speeds and running over tarmac, fields and woodland.	A footballer would need to be used to changing speed.
Interval	Short explosive bursts of exercise followed by a rest period and repeated over a set time. E.g. 1 min sprinting, 1 min walking and repeat for 10 mins.	A rugby player
Circuit	Working at different stations for a set amount of time then moving to the next one.	Heptathlete as they need to work on different components of fitness.
Weight	Lifting weights.	Weightlifter.
Plyometric	Explosive bursts of exercise for example box jumps.	A sprinter

F.I.T.T Principles of training

These are some of the principles of training and year 8 and 9 must know this. Each one begins with one of the following letters; F, I, T, T. Applying these principles of training to a fitness plan will help to improve fitness.

Principle	Meaning
Frequency	This means to increase the amount you train. E.g. increasing training sessions from one session per week to two.
Intensity	This is how hard you train. E.g. you may increase the weight of the weights you lift during your training session by a set amount each week.
Time	This is how long your training session is. You may increase the length of your training session by 5 minutes each week.
Type	This is the type of training you do. Think back to previous slides on types of training, e.g. continuous, interval fartlek etc.

Year 9 must know this!

S.P.O.R. Principles of training

Each one begins with one of the following letters; S, P, O, R. Applying these principles of training to a fitness plan will help to improve fitness.

Principle	Meaning
Specificity	This is making the training specific to the activity. For example; passing drills in basketball.
Progression	This is making the training session more challenging each week so that you show progress. For example; increasing the distance you run.
Overload	This is again making the training session harder but it means to push yourself so that the exercise feels uncomfortable in order to improve fitness. For example increasing the distance ran but also the speed in which you run.
Reversibility	This happens when you stop training and begin to lose fitness perhaps as a result of injury.