

Name _____

Class _____

3.3 – The Principles of Training & Types of Training



	Description from Specification	Pupil comments – How confident do you feel on this topic?
The principles of training and overload	Key principles of training. SPORT to include: specificity, progressive overload, reversibility, tedium. Key principles of overload. FITT to include: frequency, intensity, time, type. Students should be taught the terms and what they mean.	
Application of the principles of training	How the principles of training can be applied to bring about improvements in fitness. Application of the principles to sporting examples.	
Types of training	Understand the distinctions between different types of training. Circuit training – consider space available, equipment available, number of circuit stations, work:rest ratio, the content/demand of the circuit can be altered in order to improve different components of fitness. Continuous training – sustained exercise at a constant rate (steady state) without rests, involving aerobic demand for a minimum of 20 minutes, eg running, swimming, rowing, cycling. Fartlek training – varying speed, terrain and work:rest ratios. Interval training/high intensity interval training – periods of exercising hard, interspersed with periods of rest or low intensity exercise. Static stretching – a way to stretch to increase flexibility, held (isometric) for up to 30 seconds, using correct technique, advisable to avoid over stretching. Weight training – choice of weight/exercise depends on fitness aim, eg strength/power training or muscular endurance, the importance of safe practice/lifting technique, the need for spotters. Plyometric training – use of plyometric exercises, eg bounding, depth jumping, to increase power. Basic physiological understanding (eccentric contraction followed by larger concentric contraction). Any training (and practice) method must take account of the following: the training purpose(s), training thresholds/ training targets/training zones (see calculating intensities below) rest/recovery.	
Identification of the advantages and disadvantages of training types linked to specific aims.	The advantages and disadvantages (the effects on the body) of each type of training method stated above. Students should be taught to select and evaluate appropriate training methods for various (aerobic and anaerobic) fitness needs and make links to sporting activity, eg continuous training is fully appropriate to marathon runners.	

The Principles of Training:

There are four main **principles of training** which must be put in place in order for a fitness programme to work and result in progression or improvement.

The Principles of Training can be remembered using the acronym SPORT

1. Specificity

This means matching training to the requirements of an activity. Different sports (and different positions within sport) require athletes to excel in different components of fitness.

How would the training programme of a marathon runner and a weight lifter differ?

How would the training programme in football differ for a goalkeeper and a striker?



2. Progressive Overload

This means **gradually** increasing the amount of overload during training in order to improve fitness but without injury. In other words, if you increase the intensity of your workouts **gradually** you will make steady improvements.

Explain how an athlete could use **progressive overload** to increase their muscular endurance whilst using a bench press. Give an example in your answer.

Explain how an athlete could use **progressive overload** to increase their strength whilst using a bench press. Give an example in your answer.



3. Reversibility:

This means gradually losing fitness and occurs to anybody who stops training. Give 3 reasons why reversibility might occur to an individual.

4. Tedium

Tedium (boredom) with training can lead to demotivation and eventually reversibility. Using different types of training will help to keep a performer motivated and on track. We will look at types of training later in this booklet.

The Principles of Overload:

As we have already found out, overload refers to making training sessions harder, in order to ensure that improvements are made. Performers can use the **FITT Principle** to make sure that this happens:

- Frequency (how often)
- Intensity (how hard)
- Time (how long)
- Type (method)

Fill in the table below to show how a weight lifter could apply the FITT principle to their training programme...

	How would a weight lifter use this principle to ensure progressive overload takes place?
Frequency	
Intensity	
Time	
Type	

John used to be a competitive cross-country runner but for the last 18 months he has not taken part in the sport due to a leg injury. John has put on weight and lost fitness during his injury. John is looking to design his own training programme in order to get back into cross-country running and compete at a high level.



How can John use the FITT principle effectively in his training programme?

How can John include specificity in his training programme?

Types of Training

Athletes within different sports are required to use different training methods

After taking part in the following activities, use the table below (along with the **key terms** section at the back of this booklet) to describe the following training methods:

Training Method	What is it?	Who should take part in this type of training?	What are the advantages of this type of training?	What are the disadvantages to this type of training?
Continuous Training				
Fartlek Training				
Interval Training				

Training Method	What is it?	Who should take part in this type of training?	What are the advantages of this type of training?	What are the disadvantages to this type of training?
Circuit Training				
Plyometrics				
Weight Training				
Static Stretching				

What sport do you take part in?

Which training methods are ideal for you? Why?

Below each of the following pictures, write out two training methods that would benefit this sport:



State one advantage and one disadvantage of continuous training (2 marks).

State one advantage and one disadvantage of weight training (2 marks)

Explain how you could use **one** station within circuit training in order to improve your performance in hockey. (2 marks)

Identify an appropriate fitness class that would help a rugby player improve their fitness. Justify your choice of fitness class. (3 marks)

Key Terms:

Specificity – The particular requirements of an activity

Progressive Overload – Gradually increasing the amount of overload to improve fitness but without injury

Overtraining – Training beyond your body's ability to recover

Reversibility – Gradually losing fitness instead of progressing

Tedium – Becoming bored and demotivated with training

FITT Principle – Training principle linked to progressive overload, based on frequency, intensity, time and type

Continuous Training – Steady training with no rest periods

Interval Training – High intensity periods of activity followed by defined periods of rest

Fartlek Training – Training where the speed and terrain are constantly changing

Circuit Training – Involves a number of exercises arranged within 'stations'

Weight/Resistance Training – Uses progressive resistance to build on muscle strength or muscle endurance

Plyometrics – Jumping and bounding exercises where muscles use maximum force in short intervals of time

Static Stretching – Holding stretches for up to 30secs in order to improve flexibility