Training Log	**Method of training:** Short interval training

Explain how and why the method of training is applied in your training programme.

I used short interval training in my programme because I made one of my goals to improve my 40m sprint time. I need to be working at 90-100% of my MHR as this is what is required for this race. Short interval training is working over short distances at 90-100% of MHR which is specific to 40m as this is an anaerobic event. Short interval training will work my anaerobic system and allow me time to recover my ATP-PC very quickly to that I can perform the next set.

Explain how and why physiological responses are applied to training.

During my training I noticed my heart rate increased quickly and my body temp rose quickly as well. Also my breathing started to get heavy my legs and muscles would tire after each sprint but would restore quickly as the distance I was running was only about 40m each time. As I did more reps of sprints the lactic acid would start to build up, but with training this became less of a problem.

Explain how your chosen biophysical principles _____ and _____ are interrelated.

Short interval training and Anaerobic Energy System.
It was good in relation to my sport because in football you are not always running at a high speed the whole time but you need to be quick off the mark when needed e.g. to get the ball first and when tracking a player back in defense. During these short burst of energy you build up a lot of lactic acid and you are mostly using your anaerobic system. So the longer you can maintain 90-100% of MHR without the onset of lactic acid the better you will be at short bursts of speed you will be. Short interval training is ideal for football as it targets the anaerobic system which is a big requirement of the sport.

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<u>Task 3: Evaluating the application of biophysical principles.</u>
Evaluate the application of three methods of training you have used in your training programme (continuous, fartlek, circuit, interval (short and long), flexibility, resistance and plyometrics).

Method of Training: short interval training
In my training programme I used short interval training because one of my goals was to improve my 40m sprint time. For this I need to be working at 90-100% MHR in the reps and sets that I stated in my programme. Also I need to work at a 1:10 w/r ratio to replenish the ATP-PC system this rest periods will involve little movement. My heart rate quickly rose to a high rate and at the same time my body temp rose quickly. My breathing became heavy as I completed more reps. My legs tired as I did reps but would replenish CP during my rests. But eventually they would tire more and more from lactic acid build up. In relation to my sport and position in football, this method of training was good because I need to be quick of the mark in order to do things such as get to the ball first. Other methods such as flexibility or plyometrics would not have provided me with the benefits that short term interval training did for what I wanted to achieve which was increase my speed. However, I could have used fartlek training, and possibly could have asked my rep coach about this which could have also benefited my speed work, but I would not have been able to do both with my time constraints, and could have possibly burnt out.

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Evaluate the application of four principles of training you have used in your training programme (frequency, intensity, time, type, specificity, progression, reversibility, rest and variety).

Principle of training 1: Intensity

How did you apply it to your training programme?

I applied this by specifying the intensity I would work at, especially in my interval trainings (long and short). I worked at 90-100% of my MHR as this uses the ATP-PC system to provide the bulk of the energy. I worked out my intensity by getting my MHR by using the formula 220-age. This gave me a MHR heart rate of 203. When I did training I used a heart rate monitor to make sure that I was working at 180-200 BPM.

Why did you apply it to your training programme?

I stated that I would work at an intensity of 90-100% in my short and long interval training. As with short interval training little lactic acid is produced and recovery is rapid. Working at this intensity also was relative to my goal of 40m sprint time and increasing my time of the mark for football which require the use of the ATP-PC system and working at 90-100% MHR**.** Working the long interval training worked my lactic acid system as the reps were longer time periods were lactic acid had a chance to build up. This type of training meant I could get rid of lactic acid quicker and use it for energy like in the anaerobic glycolysis system.

Strengths of training programme – What worked?

The one major strength of my programme, specifically my short and long interval training were the principles of training such as specificity, intensity and variety. Both types of interval training were specific and related to the intensity that I would work at during a match of football, which proved to be extremely beneficial. Working at an intensity of 90-100% allowed my body to adapt to the workload required and also helped to increase the chances of improving my sprint speeds therefore helping me achieved my goals. The specific exercises were very boring, but proved to be beneficial. Completing the sprint work required a great deal of motivation and energy, which I had, however I don't think I could keep this up long term, so should also consider the principle variety for the sprint work. However I used variation in my resistance training, by having a wide variety of exercise it allowed me to work on many muscle groups, once again helping me reach my goals of improving my muscular strength and endurance.

2

Weaknesses of training programme – What didn't?

There were a few weaknesses in my training programme. Although I have really improved my speed in the game of football, I have found that I need to still work on my cardiovascular endurance, eg, feeling like I can give the entire game my best. This would mean adding continuous training to my programme. Although there were lots of benefits from my short and long term interval training, I should have added one long continuous run, eg on Tuesday mornings, I could go for a 50 minute run. This would allow me to be able to work efficiently for the entire game, rather than just focusing on short bursts of speed. Another weakness was one was my long term interval training and that it was straight line. Where as in football you are always changing direction. I may have been better off doing agility training or adding turns to my training.

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What modifications would you make to the application of the biophysical principles used in your programme?

To improve my resistance training to give me an increased chance to reach my goal of improving my muscular endurance I would lower my 1Rm% from 75% to 60%. This is because I am completing 8 reps of my targeted 15 reps. This means I am not training correctly, I am training hypertrophy. In relation to my sport and goal which is training for muscular endurance. Reducing my 1RM % would allow me to reach my target. To improve my short interval I would also add extra drills