

# GCSE PEP

Candidate number - xxxx

xxxx

Centre Number: xxxxx



## **~~Aims and Planning~~**

### **~~Introduction~~**

I am a footballer who plays defence for my local team. I am looking to improve the components of fitness to develop my overall game.

Football utilises several different components of fitness. Agility is needed in football to be able to change direction, at speed but remaining in control, to intercept the opposition and regain possession of the ball. Football uses both the aerobic and anaerobic system during a game of football. The anaerobic energy system is used as a defender when sprinting for the ball. It is important to be able to cover distance quickly across the pitch to reach the attacker, intercept the ball and stop them from shooting successfully. During a football game, the average elite female defender will run up to 5 miles per game. Using the aerobic energy system, footballers also need, cardiovascular fitness. This important to allow the footballer to continue to run throughout the entire game, sending oxygen and nutrients to the working muscles.

**Cumulative word count: 161**

### **~~Performance Analysis~~**

Below I have completed a notational analysis to compare my fitness levels to an elite performer.

**Name:** xxxxx

**Team:** xxxxx

**Sport:** Football

**Date:** 13/01/23

<b>Tackles attempted</b>	<b>Tackles successful</b>	<b>Successful headers</b>	<b>clearance</b>	<b>Distance covered</b>	<b>Time spent on the pitch</b>
5	9	3	5	2.7 miles	65

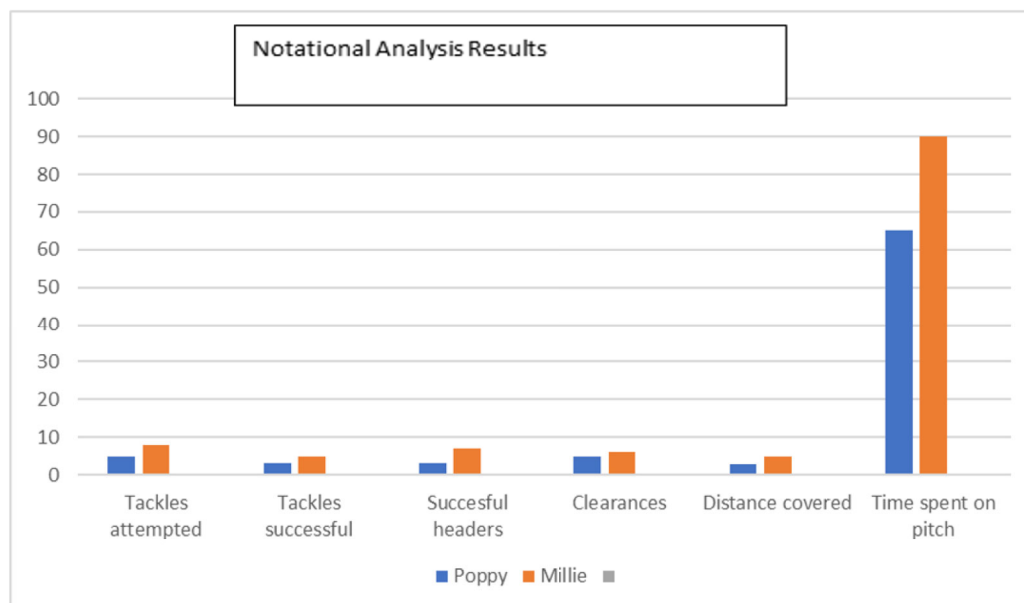
**Player:** Millie bright

**Team:** Chelsea fc

**Sport:** Football

**Date:** 15/01/23

<b>Tackles attempted</b>	<b>Tackles successful</b>	<b>Successful headers</b>	<b>clearances</b>	<b>Distance covered</b>	<b>Time spent on the pitch</b>
8	0	7	6	4.9 miles	90



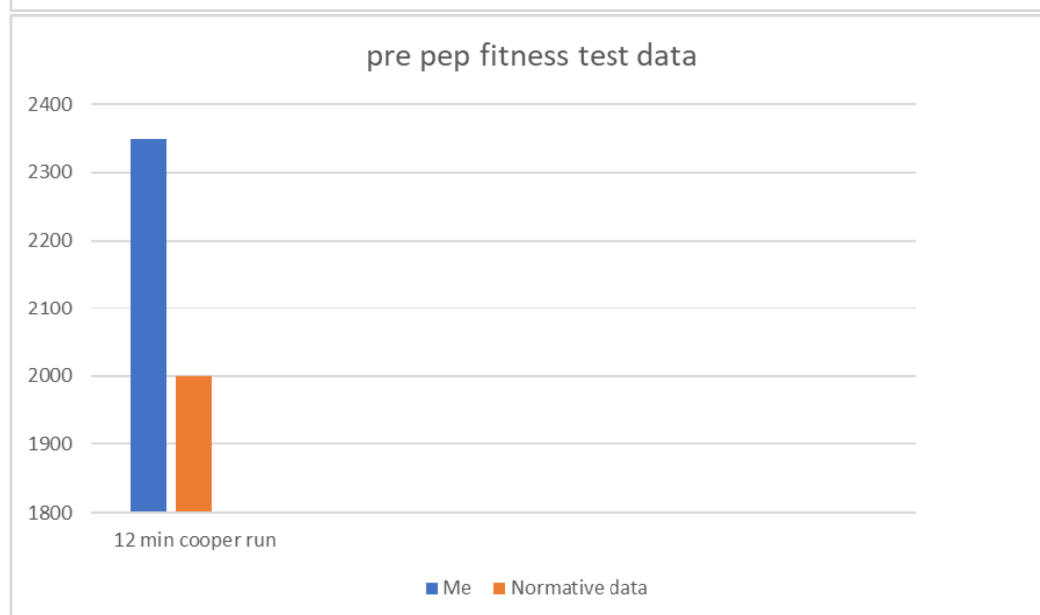
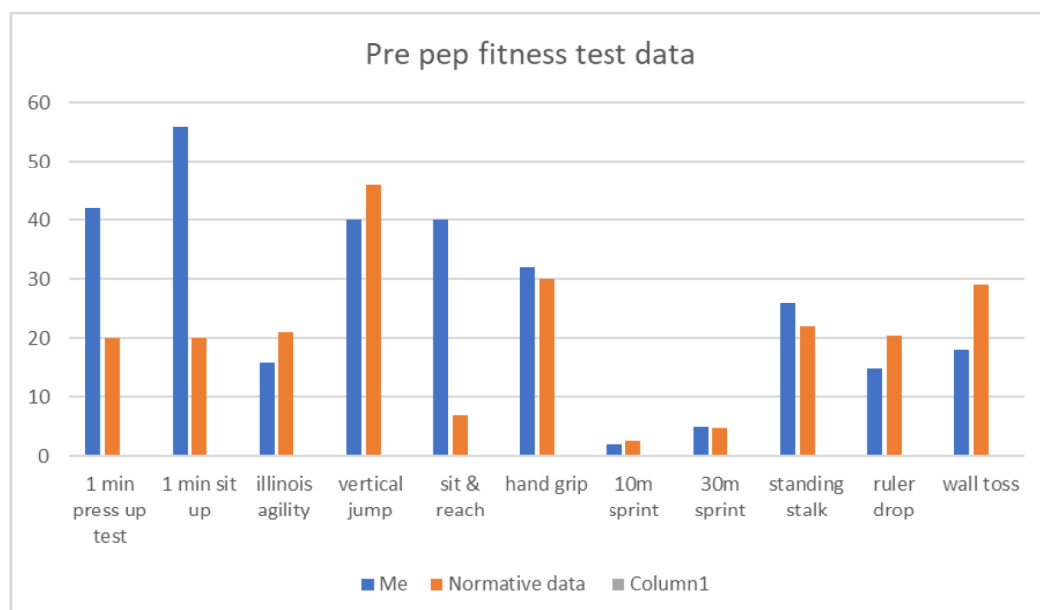
This was my first game back off the new year and playing top off the league team, they were a strong attacking team, we struggled to clear the ball out of our half. When we did clear the ball, they were also strong in defence and regained possession which led to a counterattack. During the game I was only able to stay on the pitch for 65minutes this is because I get out a breath towards the end of the game and my cardiorespiratory system is unable to continue past 65 minutes unlike the elite player, Millie Bright who can stay on the pitch for the full 90 minutes. By not staying on the pitch, it meant my other skills were also lower when compared to Millie Bright. For example, my successful headers, distance covered, and tackles attempted.

**Cumulative word count: 289**

#### **PRE-PEP fitness test data-**

<b><u>Fitness tests</u></b>	<b><u>Component of fitness</u></b>	<b><u>Results</u></b>	<b><u>Normative data</u></b>
1 minute sit up	Muscular endurance	42	Excellent
1 minute press up	Muscular endurance	56	Excellent
One leg wall squat	Muscular Endurance	48 seconds	Below average
12-minute run	Cardiovascular fitness	1650m	Below average
Illinois	Agility	16 seconds	Excellent
Vertical jump	Power	<u>38</u>	Average
Sit and reach	Flexibility	40cm	Excellent
Hand grip	Muscular strength	32 kg/w	Above average
10m	Speed	2.07 seconds	Excellent

Standing stalk	Balance	27seconds	Average
Rulers drop	Reaction time	8	Above average
Wall toss	Coordination	18	Poor



My fitness test data suggests that my strengths are agility, power, and flexibility as I scored excellent in all three tests when comparing to normative data. This allowed me to be able to drive with explosiveness and gain a higher chance of winning the ball back in one-to-one situations and to beat them on pace, as my speed (10metre sprint) is excellent. However, the aerobic based components of cardiovascular fitness and muscular endurance are both weakness as I scored below average and poor in both tests. This coincides with my performance data as towards the end of a game I start to tire and get out a breath; because of this I find it difficult to cover the distance of the pitch to get back to position and defend meaning the other team have an opportunity to shoot or even score a goal, which means I am often taken off the pitch in the last 15 minutes of the game.

Cumulative word count: 399

### PEP AIM

*To increase the time spent on the pitch to allow more opportunities for my team by improving my cardiovascular fitness*

### SMART targets

SMART targets are used to make sure I can reach my target by the end of the 6-week PEP.

**Specific** – Cardiovascular fitness was the main weakness, not only in my performance, in the ability to cover distance on the pitch to get back into position to defend and regain possession of the ball. My result in the 12-minute cooper run is below the average in comparison to normative data.

#### **Targets:**

1. To improve my 12-minute cooper run by 200m to increase my rating to average
2. Increase the time spent on the pitch by 15 minutes

**Measurable** - I will see my progress and the effectiveness of the pep by redoing my 12-minute copper run halfway through and at the end of the programme.

**Achievable** – my aim of improving my 12minute cooper run by 200 metres will be difficult but achievable, this will mean I am motivated to reach my goal, but it is achievable which would demotivate me.

**Realistic** – by applying the principles of training correctly and the correct methods of training I will be able the achieve this within 6 weeks.

**Time bound** - I will do my targets in 6 weeks.

Cumulative word count: 289

### Methods of training

Throughout my 6-week training programme I will use circuit training to improve my cardiovascular fitness. Within the circuit I will include exercises that will ensure my heart rate is within the aerobic training zone (60-80% MHR) at each station. The circuit will include periods of work (30 seconds) followed by periods of rest (30 seconds). The circuit will predominantly focus on my lower body (quadriceps, hamstrings, and gastrocnemius). I will ensure that I am completing low weight with a high number of reps if using weights to activate my slow twitch (type 1) muscle fibres and ensure they can continue to work for an extended period of time. This is improving muscular endurance and muscle growth whilst offering a full body work out, and you can add exercises that are specific to football.

It is important to note that I could have also selected continuous training to improve my cardiovascular fitness. However, this was not as suitable as I get bored quickly and lose motivation.

**Cumulative word count: 289**

### **Principles of training**

I will use FITT principles to ensure I am able to reach my target by the end of the 6 weeks.

**Frequency:** My first 3 weeks of training will consist of once-a-week exercises and then I will try progressive overload by increasing the frequency of my workouts. I will need rest and recovery days to reduce overtraining which will mean I am less likely to get injured and reduce the chance of reversibility.

**Intensity:** To improve my cardiovascular fitness, I will need to ensure that I work in the aerobic training zone (60-85% MHR) throughout each session.

$$\text{MHR} = 220 - 14 = 206$$

$$206 \times 0.6 = 123.6$$

$$206 \times 0.85 = 175.1$$

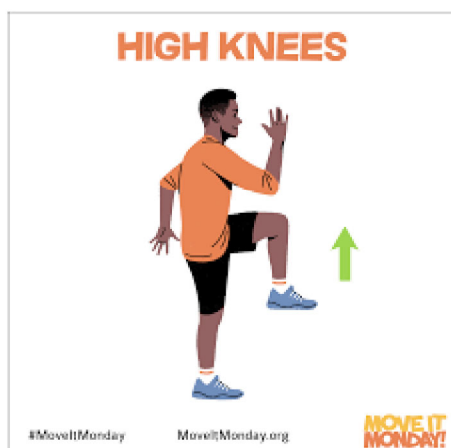
**Time:** During the 6 weeks the training sessions will get gradually longer after I have completed the mid pep fitness testing, this will allow for progress overload. The sessions will last 30-45 minutes: this will mimic the length of a football half.

**Type:** I will use circuit training with specific aerobic exercises to ensure I am working my cardiovascular fitness. Below illustrates the exercises:

**Cumulative word count: 922**

### **Circuit**

#### **High knees**



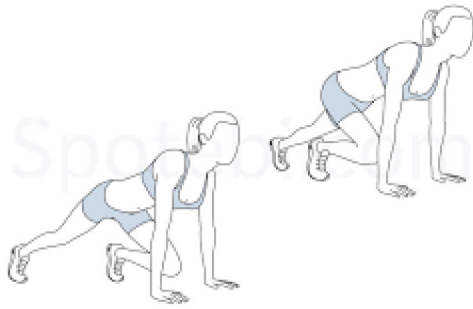
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### Jump squats



### Mountain climbers



**burpees**

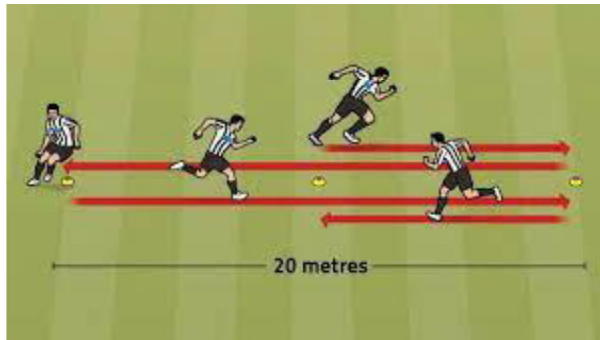


**Walk outs**

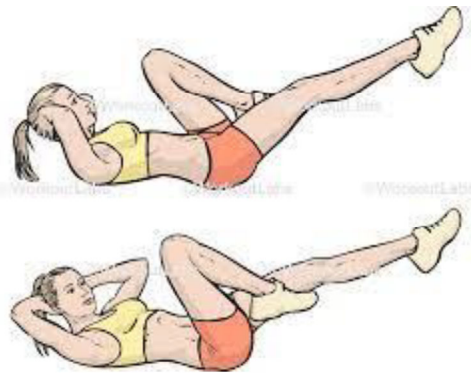


**Shuttle runs**





### Elbow too knee



### Physical Activity Readiness Questionnaire

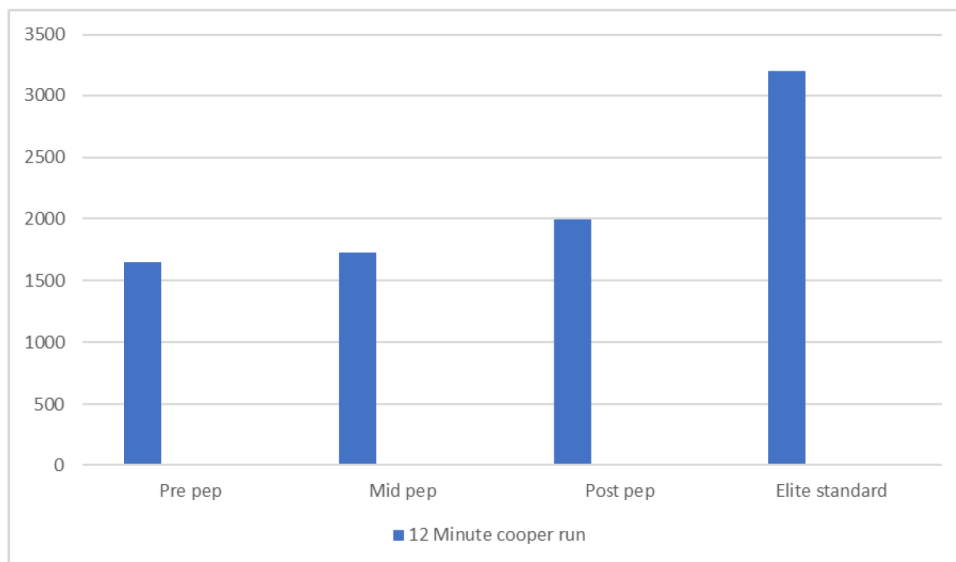
Name	xxxxxx
Gender	Female
Age	14
Weight	46kg
Medical info	N/A
Past injuries	Broken elbow, Broken knee
Activity currently undertaken	Currently play football for my local team

Frequency of exercise/training	I train and play football 3x a week
Describe your current level off fitness	Elevated level off fitness
Additional comments about health/fitness	2 screws in elbow and a plate

### PEP Evaluation

#### Fitness Test Analysis

<u>Fitness test</u>	<u>Score</u>
Pre pep 12-minute cooper run	1650
MID pep 12-minute cooper run	1720
Post pep 12-minute cooper run	1995
Elite standard	3000



**Test – 12-minute cooper run**

**Component of fitness – cardiovascular**

**Improvement amount – 345 metres**

**% improvement -**

As you can see from the results above, I have improved my 12-minute cooper run score by 345m. This means that I have exceed one of my SMART targets.

Over the 6-week training programme I ensured that I applied progressive overload to each session, and I selected the method of training of circuit training. This included periods of work ensuring my heart rate remained in the aerobic training zone 60-85% of MHR, this could have been the reason I was successful in exceeding my target. For example, I increased the distance when doing shuttle runs by 2metres every week to build up my cardiovascular fitness.

Physiological adaptations would have occurred because of this. My cardiovascular fitness has become more efficient because my heart has become stronger (cardiac hypertrophy). This means that my stroke volume has increased as my heart can pump more oxygenated blood per beat. In addition to this, I have increased the number of alveoli in my body and now have more red blood cells so oxygen can get to the working muscles quicker. My working heart rate has also decreased in week 1 it was 168bpm and by the final session it was 154bpm because of the increased stroke volume. These adaptations will allow me to continue throughout the entire match and not become as tired as quick.

**Cumulative word count: 1126**

### **Impact on performance**

	<b>Tackles attempted</b>	<b>Tackles successful</b>	<b>Successful headers</b>	<b>Clearances</b>	<b>Distance covered</b>	<b>Time spent on the pitch</b>
Pre-PEP	5	9	3	5	2.7 miles	65
Post- PEP	7	9	4	8	3.2 miles	80

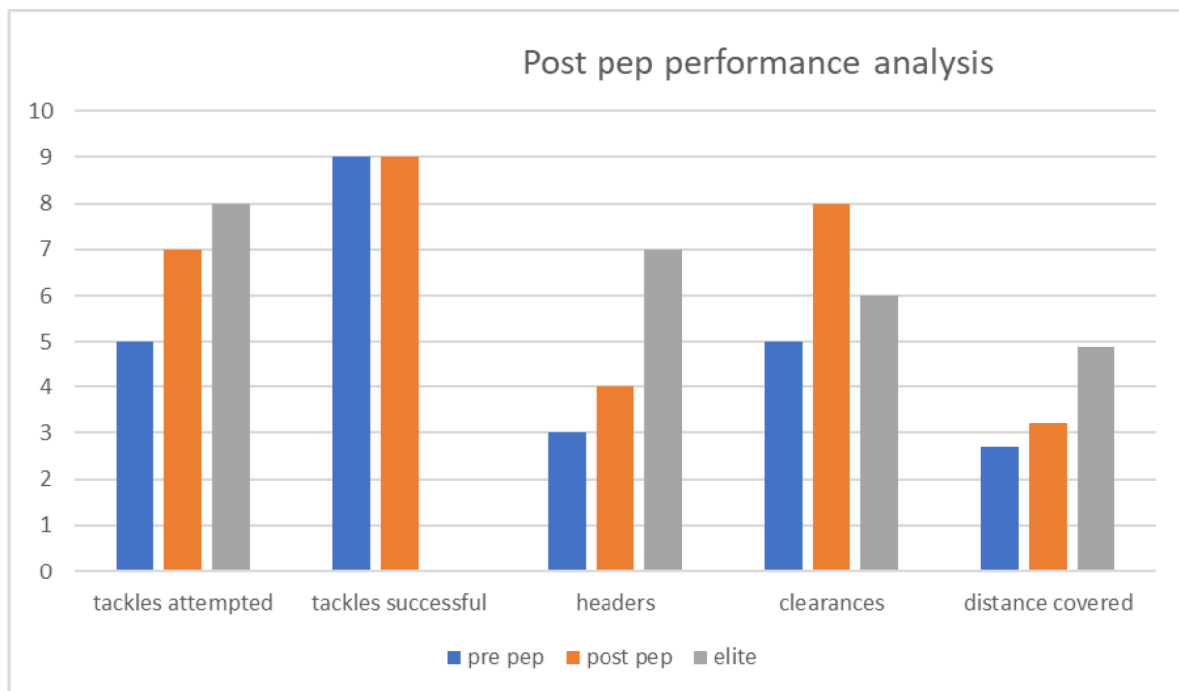
**Player:** Millie bright

**Team:** Chelsea fc

**Sport:** Football

**Date:** 15/01/23

<b>Tackles attempted</b>	<b>Tackles successful</b>	<b>Successful headers</b>	<b>clearances</b>	<b>Distance covered</b>	<b>Time spent on the pitch</b>
8	0	7	6	4.9 miles	90



The results off my notational analysis shows that my performance has improved over the 6 weeks. I did develop my 12-minute cooper run by doing circuit training. This gave me an advantage when increasing the time spent on the pitch by 15 minutes, because of this I played more of the football game and I therefore I covered more distance on the pitch. This meant I endured the entirety of the match at optimum level giving my team more of a chance of winning.

When completing the circuit, I was able to ensure the stations were specific and remained continuous with very small breaks in-between the sessions. This allowed me to mimic a football game and the fact there are little breaks within the game. To improve my cardiovascular endurance, I could have also carried out continuous training which is training at a steady pace but moderate intensity which should be at least 20 minutes. The reason I did not select this method is because I get bored easily doing the same thing for longer than 30 minutes. Another great option would be fartlek training in the future, this is a form of interval training but without rest on different distances and terrains. However, I did not use it this time because it is easy to overdo.

The success of my PEP could be due to the successful application of SMART targets principles of training. Not only was my training specific to both my fitness and performance aims I also applied progressive overload throughout the 6 weeks period by using the FITT principle. I increased the frequency of the sessions from 1 session to 2 and increased the intensity by adding time to each station from 30 seconds to 40 seconds. By keeping the programme to 6 weeks, I was able to remain motivation and sessions did not become tedious. To reduce the risk of injury and reversibility I ensured I had sufficient rest and recovery days. I carried out continuous training alongside circuit training. This will add variation and help improve my cardiovascular endurance further. I completed a pre pep circuit to better understand fitness levels so I can select the correct intensity from the start. I adjust the stations within the circuit over the weeks to avoid tedium and keep variation.

## **Recommendations**

Looking back over my 6-week training programme. It was successful but if I were to do it again, I would make some slight changes. I would carry out continuous training alongside circuit training. This will add variation this will stop me getting bored and increase my motivation and help improve my cardiovascular endurance further, for example cycle 30 minutes on a stationary bike at a target heart rate of 60-85% max heart rate to ensure an increase in oxygen delivery as well as improved oxygen utilization by active muscles through greater capillarization. I would also complete a pre-PEP circuit to better understand fitness levels so I can select the correct intensity from the start to ensure that I maximise the improvements of my Cardiovascular fitness. This would mean I am more effective in a game and have a higher chance in playing the full 90 minutes without fatigue.

**Cumulative word count: 1498**

## Appendices

### Appendix 1- Training records

#### Week 1 Session 1- 6/2/23 4pm

Exercise	Reps/Time	Rest time	Working HR	Number of rounds
High knees	30s	30s	168bpm	I will complete the circuit 3 times through with 2 minutes rest in between.
Star jumps	30s	30s		
Skipping	30s	30s		
Jump squats	30s	30s		
Mountain climbers	30s	30s		
Elbow to knee	30s	30s		
Walk outs	30s	30s		
Shuttle runs	30s	30s		
Burpees	30s	30s		
Skipping	30s	30		

#### Week 2 Session 1- 13/2/23 4pm

Exercise	Reps/Time	Rest time	Working HR	Number of rounds
High knees	30s	30s	166bpm	I will complete the circuit 3 times through with 2 minutes rest in between.
Star jumps	30s	30s		
Skipping	30s	30s		
Jump squats	30s	30s		
Mountain climbers	30s	30s		
Elbow to knee	30s	30s		
Walk outs	30s	30s		
Shuttle runs	30s	30s		
Burpees	30s	30s		
Skipping	30s	30		

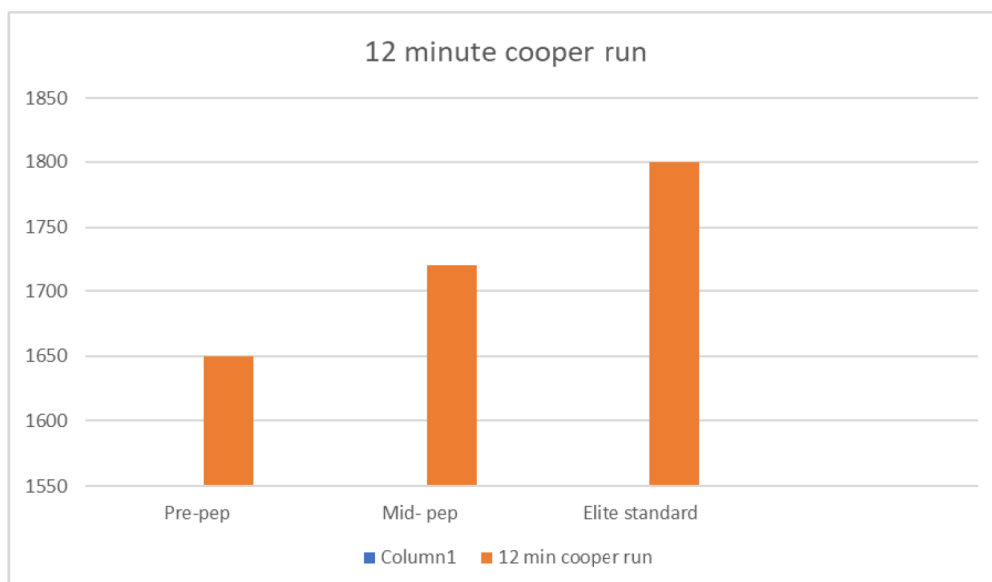
#### Week 3 Session 1- 20/2/23 4pm

Exercise	Reps/Time	Rest time	Working HR	Number of rounds
High knees	30s	30s	166bpm	I will complete the circuit 3 times through with 2 minutes
Star jumps	30s	30s		
Skipping	30s	30s		
Jump squats	30s	30s		
Mountain climbers	30s	30s		
Elbow to knee	30s	30s		
Walk outs	30s	30s		
Shuttle runs	30s	30s		

Burpees	30s	30s		rest in between.
Skipping	30s	30		

### Mid PEP testing

<u>Fitness test</u>	<u>Score</u>
Pre – PEP 12 min cooper run	1650
Mid-PEP 12 min cooper run	1720
Elite standard	1800



### Week 4 Session 1

Exercise	Reps/Time	Rest time	Working HR	Number of rounds
High knees	40s	30s	156bpm	I will complete the circuit 3 times through with 2 minutes rest in between.
Star jumps	40s	30s		
Skipping	40s	30s		
Jump squats	40s	30s		
Mountain climbers	40s	30s		
Elbow to knee	40s	30s		
Walk outs	40s	30s		
Shuttle runs	40s	30s		
Burpees	40s	30s		
Skipping	40s	30		

### Week 4 Session 2

Exercise	Reps/Time	Rest time	Working HR	Number of rounds
High knees	40s	30s	158bpm	I will complete the circuit 3 times through with 2 minutes rest in between.
Star jumps	40s	30s		
Skipping	40s	30s		
Jump squats	40s	30s		
Mountain climbers	40s	30s		
Elbow to knee	40s	30s		
Walk outs	40s	30s		
Shuttle runs	40s	30s		
Burpees	40s	30s		
Skipping	40s	30		

### Week 5 Session 1

Exercise	Reps/Time	Rest time	Working HR	Number of rounds
High knees	40s	30s	155bpm	I will complete the circuit 3 times through with 2 minutes rest in between.
Star jumps	40s	30s		
Skipping	40s	30s		
Jump squats	40s	30s		
Mountain climbers	40s	30s		
Elbow to knee	40s	30s		
Walk outs	40s	30s		
Shuttle runs	40s	30s		
Burpees	40s	30s		
Skipping	40s	30		

### Week 5 Session 2

Exercise	Reps/Time	Rest time	Working HR	Number of rounds
High knees	40s	30s	155bpm	I will complete the circuit 3 times through with 2 minutes rest in between.
Star jumps	40s	30s		
Skipping	40s	30s		
Jump squats	40s	30s		
Mountain climbers	40s	30s		
Elbow to knee	40s	30s		
Walk outs	40s	30s		
Shuttle runs	40s	30s		
Burpees	40s	30s		
Skipping	40s	30		



### **Week 6 Session 1**

Exercise	Reps/Time	Rest time	Working HR	Number of rounds
High knees	40s	30s	154bpm	I will complete the circuit 3 times through with 2 minutes rest in between.
Star jumps	40s	30s		
Skipping	40s	30s		
Jump squats	40s	30s		
Mountain climbers	40s	30s		
Elbow to knee	40s	30s		
Walk outs	40s	30s		
Shuttle runs	40s	30s		
Burpees	40s	30s		
Skipping	40s	30		

### **Week 6 Session 2**

Exercise	Reps/Time	Rest time	Working HR	Number of rounds
High knees	40s	30s	154bpm	I will complete the circuit 3 times through with 2 minutes rest in between.
Star jumps	40s	30s		
Skipping	40s	30s		
Jump squats	40s	30s		
Mountain climbers	40s	30s		
Elbow to knee	40s	30s		
Walk outs	40s	30s		
Shuttle runs	40s	30s		
Burpees	40s	30s		
Skipping	40s	30		