

St Ninian's High School

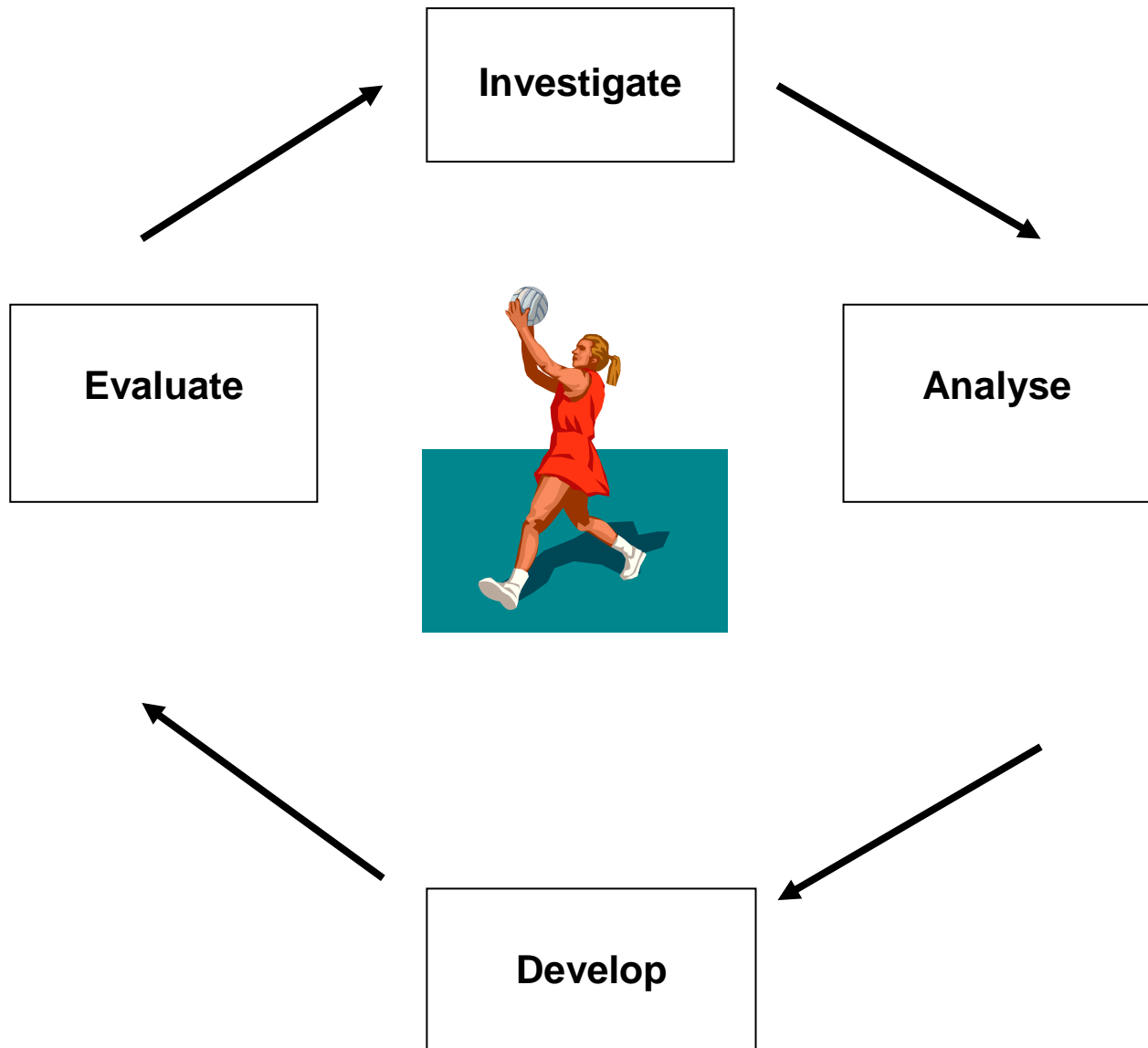
Physical Education



National 5

Netball

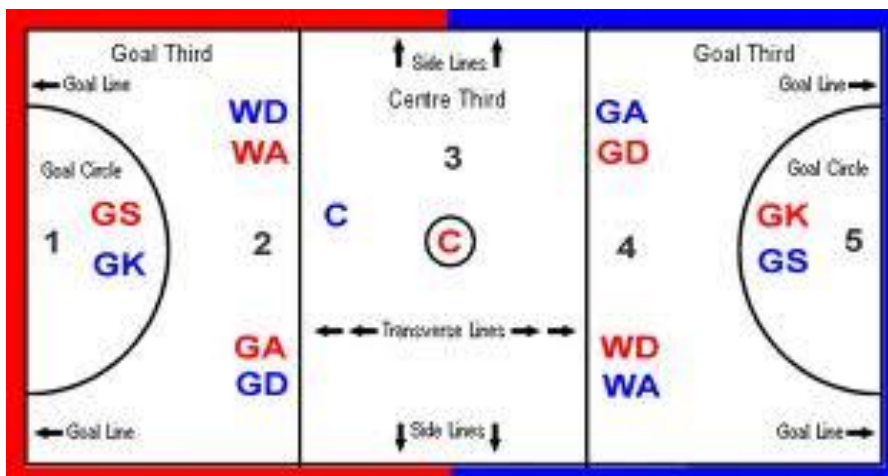
In this course you will develop your skills and fitness levels within netball. You will have the opportunity to do the following:



Within the netball course you will focus on **Physical Factors** and **Social Factors**. You will investigate how these factors impact on your performance.

Netball

Each team is allowed seven players on the court. Each player is assigned a specific position, which limits their movement to a certain area of the court. The game is split into 4 quarters, each lasting 12 minutes. All players start the game in the following positions:



Complete the following by indicating the areas on court that each player is allowed to enter.

Role	Areas of play
Centre	
Goal shooter	
Goal attack	
Wing attack	
Wing defence	
Goal defence	
Goalkeeper	

Game Play

At the beginning of every quarter and after a goal has been scored, play starts with the player in the centre position passing the ball from the centre of the court. These 'centre passes' alternate between the teams, regardless of which team scored the last goal. When the umpire blows the whistle to restart play, four players (GA, GD, WA & WD) from each team can move into the centre third to receive the pass. The team's aim is to get the ball into the shooting circle to allow the GA or GS to shoot and score.

Rules

- The centre pass must be caught or touched in the centre third.
- The ball must be touched by a player in each adjacent third of the court.
- Players can hold the ball for only three seconds at any time.
- It must be released before the foot they were standing on when they caught it touches the ground again.
- Dragging – Players cannot 'drag' the first landing foot while the ball is in their hands.
- Contact between players is only permitted if it does not impede an opponent or the general play.
- When defending a pass or shot players must be at least 1 metre away from the player with the ball.
- If illegal contact is made, the player who contacted cannot participate in play until the player taking the penalty has passed or shot the ball. The fouling player must stand next to their opponent where the obstruction was made until the pass is played.
- If the ball is held in two hands and either dropped or a shot at goal is missed, the same player cannot be the first to touch it unless it first rebounds off the goal.
- A player must not bounce the ball to gain control. If this occurs the ball is replayed by the opposition.
- Intimidation – Players cannot obstruct the ball handlers' view by placing hands in front of their face. If this occurs a penalty pass is taken by the opposition.

Physical Factor - Fitness Requirements

There are 2 types of fitness:

1. Physical Fitness
2. Skill-Related Fitness

These 2 types of fitness are looked at in more detail below:

Physical Fitness

There are **six** aspects of physical fitness:

1. Speed:

The ability to cover a distance or perform a movement in a short period of time.

2. Cardio-Respiratory Endurance:

The ability of the whole body to work continuously for a long period of time.

3. Flexibility:

The range of movement across a joint.

4. Local Muscular Endurance:

The ability of a group of muscles to work continuously.

5. Strength:

The maximum amount of force a muscle, or group of muscles, can exert in a single effort.

6. Power:

A combination of speed and strength.

After competing in several netball games, complete this page by filling in the blanks.

Why is **Speed** important in netball?

- To beat opponents to the ball.
-
- To get forwards quickly to help in attack.
-
- To get the ball to the GA or GS quickly before a defender applies pressure.

Why is **Cardio-Respiratory Endurance** important in netball?

-
- To have the ability to pass, shoot and move up & down the court throughout the game.
-
- To be able to mark your opponents for the duration of the game.
-

Skill-Related Aspects of Fitness

There are **five** aspects of skill-related fitness:

1. Co-ordination:

This is the ability to control movements smoothly and fluently. To perform in a co-ordinated way, groups of muscles need to work in a certain order to create an effective action.

2. Agility:

This is the ability to move the body quickly and precisely.

3. Balance:

This is the ability to retain the centre of gravity over your base of support.

4. Reaction Time:

This is the time taken between the recognition of a signal and the start of the movement.

5. Timing:

The ability to accurately perform skills at the correct time.

After competing in several netball games, complete this page by filling in the blanks.

Why is **agility** important in netball?

- To dodge away from a defender to receive a pass.
-
- To fake a movement and get away from a defender.
-

Why is **timing** important in netball?

-
- To make a pass at the correct time that will allow my teammate to move onto the ball.
-
- During a set play to ensure each role is in the correct place at the correct time.

Roles and Fitness Demands

Give examples of the aspects of fitness that are required by each of the specific roles within netball. An example has been done for you.

Role	Demands of position
Centre	Cardio Respiratory Endurance Agility Timing Coordination

Choose 2 of the above roles and explain why these aspects of fitness are important to that player. Give 2 reasons.

Player _____

Reason 1

Reason 2

Player _____

Reason 1

Reason 2

Social Factor – Adopting Roles

You have now experienced the roles within netball and the fitness requirements for each role. It is important that you select a role that suits your capabilities.

Role selected _____

The reasons I have selected this role are

For your role in netball, answer the following questions.

1. Why is **communication** important within your role?

2. Why is **cooperation** important within your role?

3. Why is **team work** important in netball?

Methods of Gathering Information

In order to find out how good you are at netball you must analyse your performance. To do this you must first gather important information about your performance.

To gather information on performance we use:

1. **Standardised fitness tests**
2. **General questionnaire**

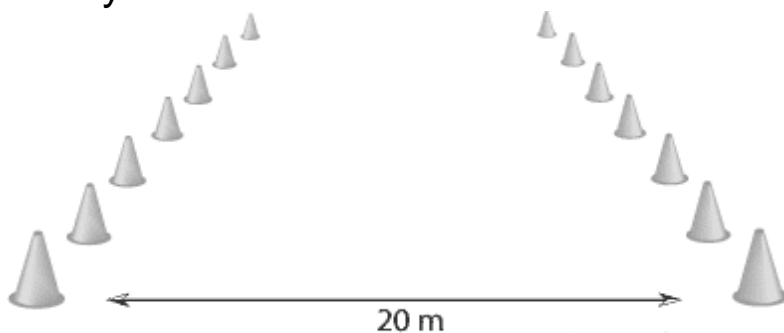
Standardised Fitness Tests

Standardised fitness tests have a set protocol. This means that whoever is carrying them out and wherever they are testing the test must follow the same procedures.

20-Metre Shuttle Run Test

This test measures **cardio-respiratory endurance**. It involves running continuously between 2 markers, 20 metres apart in time to recorded 'beeps'. The 'beeps' are numbered and get progressively closer together as you proceed through the test. When the test begins the required running speed is fairly slow but as the speed of the 'beeps' increases the speed of your running must also increase. You keep going until you are unable to reach the markers twice in a row. The last number given is your score for the test.

You can then compare this score with national ratings or class averages to see how good your cardio-respiratory endurance actually is. You can also use it to measure improvements in your cardio-respiratory endurance over time.



35m Speed Test

This test measures **speed**. You are timed for the speed it takes you to cover 35 metres. On the command 'GO' you run as fast as you possibly can over the distance and your time is taken. You repeat this three times (with a long break in between). Your fastest time is your score for the test.

You can then compare this time with national ratings or class averages to see how good your speed actually is. You can also use it to measure improvements in your speed over time.

General Questionnaire

Question	Rarely	Sometimes	Often
Competing against other people/teams is socially enjoyable			
Before I compete I consider the environment I will be playing in			
Before I compete I discuss the game with my team mates			
I am a fair sportsman/woman when I compete			
When I compete I communicate with my team mates			
I set goals for when I am competing			
When I compete I work well with my team mates			
I am supportive of team mates regardless of their performance			

Consider the above information. Explain how social factors have an impact on your performance?

Validity and Reliability

All methods used to gather information are appropriate for the following reasons:

- They have a set protocol
- They are repeatable
- The scores recorded can be compared to national or class averages

From your experience of carrying out the methods, list 2 other reasons why the methods used are appropriate:

-
-

Choose 1 of the above reasons and ***explain why*** this makes the methods appropriate.

Example

The schedules provide me with a permanent record that can be used for future reference. This means that I can look back and note the improvements I have made during training. This helps to keep me motivated during the programme.

Reason 1:

Analysing and Interpreting Results

Once you have gathered information on your performance you must analyse and interpret your results to identify strengths and weaknesses within your performance.

You can analyse your results by comparing them to:

1. National Averages
2. Others within your class

National Averages

Below enter your scores for each standardised test and note how it compares to national averages (pages 17 - 20).

20 metre shuttle run test (Multi stage fitness test)

Initial score: _____

V02 max: _____

Comparison with national averages: _____

35m Speed Test

Initial score: _____

Comparison to national averages _____

Multi-Stage Fitness Test National Averages

In the table below locate the Level and Shuttle you achieved in the test to find your VO2 max value.

Level	Shuttle	VO2 Max		Level	Shuttle	VO2 Max
4	2	26.8		5	2	30.2
4	4	27.6		5	4	31.0
4	6	28.3		5	6	31.8
4	9	29.5		5	9	32.9
Level	Shuttle	VO2 Max		Level	Shuttle	VO2 Max
6	2	33.6		7	2	37.1
6	4	34.3		7	4	37.8
6	6	35.0		7	6	38.5
6	8	35.7		7	8	39.2
6	10	36.4		7	10	39.9
Level	Shuttle	VO2 Max		Level	Shuttle	VO2 Max
8	2	40.5		9	2	43.9
8	4	41.1		9	4	44.5
8	6	41.8		9	6	45.2
8	8	42.4		9	8	45.8
8	11	43.3		9	11	46.8
Level	Shuttle	VO2 Max		Level	Shuttle	VO2 Max
10	2	47.4		11	2	50.8
10	4	48.0		11	4	51.4
10	6	48.7		11	6	51.9
10	8	49.3		11	8	52.5
10	11	50.2		11	10	53.1
				11	12	53.7
Level	Shuttle	VO2 Max		Level	Shuttle	VO2 Max
12	2	54.3		13	2	57.6
12	4	54.8		13	4	58.2
12	6	55.4		13	6	58.7
12	8	56.0		13	8	59.3
12	10	56.5		13	10	59.8
12	12	57.1		13	13	60.6

Level	Shuttle	VO2 Max		Level	Shuttle	VO2 Max
14	2	61.1		15	2	64.6
14	4	61.7		15	4	65.1
14	6	62.2		15	6	65.6
14	8	62.7		15	8	66.2
14	10	63.2		15	10	66.7
14	13	64.0		15	13	67.5
Level	Shuttle	VO2 Max		Level	Shuttle	VO2 Max
16	2	68.0		17	2	71.4
16	4	68.5		17	4	71.9
16	6	69.0		17	6	72.4
16	8	69.5		17	8	72.9
16	10	69.9		17	10	73.4
16	12	70.5		17	12	73.9
16	14	70.9		17	14	74.4
Level	Shuttle	VO2 Max		Level	Shuttle	VO2 Max
18	2	74.8		19	2	78.3
18	4	75.3		19	4	78.8
18	6	75.8		19	6	79.2
18	8	76.2		19	8	79.7
18	10	76.7		19	10	80.2
18	12	77.2		19	12	80.6
18	15	77.9		19	15	81.3
Level	Shuttle	VO2 Max		Level	Shuttle	VO2 Max
20	2	81.8		21	2	85.2
20	4	82.2		21	4	85.6
20	6	82.6		21	6	86.1
20	8	83.0		21	8	86.5
20	10	83.5		21	10	86.9
20	12	83.9		21	12	87.4
20	14	84.3		21	14	87.8
20	16	84.8		21	16	88.2

Now work out the assessment of your multi stage fitness test result:

Female (values in ml/kg/min)

Age	Very Poor	Poor	Fair	Good	Excellent	Superior
13-19	<25.0	25.0 - 30.9	31.0 - 34.9	35.0 - 38.9	39.0 - 41.9	>41.9
20-29	<23.6	23.6 - 28.9	29.0 - 32.9	33.0 - 36.9	37.0 - 41.0	>41.0
30-39	<22.8	22.8 - 26.9	27.0 - 31.4	31.5 - 35.6	35.7 - 40.0	>40.0
40-49	<21.0	21.0 - 24.4	24.5 - 28.9	29.0 - 32.8	32.9 - 36.9	>36.9
50-59	<20.2	20.2 - 22.7	22.8 - 26.9	27.0 - 31.4	31.5 - 35.7	>35.7
60+	<17.5	17.5 - 20.1	20.2 - 24.4	24.5 - 30.2	30.3 - 31.4	>31.4

Male (values in ml/kg/min)

Age	Very Poor	Poor	Fair	Good	Excellent	Superior
13-19	<35.0	35.0 - 38.3	38.4 - 45.1	45.2 - 50.9	51.0 - 55.9	>55.9
20-29	<33.0	33.0 - 36.4	36.5 - 42.4	42.5 - 46.4	46.5 - 52.4	>52.4
30-39	<31.5	31.5 - 35.4	35.5 - 40.9	41.0 - 44.9	45.0 - 49.4	>49.4
40-49	<30.2	30.2 - 33.5	33.6 - 38.9	39.0 - 43.7	43.8 - 48.0	>48.0
50-59	<26.1	26.1 - 30.9	31.0 - 35.7	35.8 - 40.9	41.0 - 45.3	>45.3
60+	<20.5	20.5 - 26.0	26.1 - 32.2	32.3 - 36.4	36.5 - 44.2	>44.2

35 Metre Sprint Test National Averages

In the table below locate the time you ran the 35 metre sprint test and work out your rating.

Rating	Male	Female
Excellent	< 4.80	< 5.30
Good	4.80 - 5.09	5.30 - 5.59
Average	5.10 - 5.29	5.60 - 5.89
Fair	5.30 - 5.60	5.90 - 6.20
Poor	> 5.60	> 6.20

From your performance, describe 1 strength and 2 areas for development in your performance.

One strength is:

One development need is:

A second development need is:

You will continue to develop your performance in netball in S4. Based on your results it is important you set yourself a goal to keep yourself focused and motivated.

My Goal:

S3 Netball Summary

Which factor has had a **positive** impact on your performance?

Physical

Social

Explain why this factor has had a positive impact on your performance.

Which factor has had a **negative** impact on your performance?

Physical

Social

Explain why this factor has had a negative impact on your performance.

Methods of Training

Once you have identified which factor requires improvement then you must select a method of training specific to the aspects you wish to develop.

Continuous Training (CRE)

This form of training is very straightforward. It involves running continuously at a set pace for a set time. This can be done inside or outside on any chosen terrain. In order to improve levels of cardio respiratory endurance a player must ensure that they are working within their training zone for 20 to 30 minutes three to four times a week. Training zone is related to heart rate. Working within the zone of 70 – 85% of your maximum heart rate for 20 to 30 minutes improves your cardio respiratory endurance.

We calculate maximum heart rate using the following calculation:

$$220 - \text{Age} = \text{Maximum Heart Rate}$$

So for a 14 year old, the correct training zone to improve cardio respiratory endurance is:

$$220 - 14 = 206 \text{ beats per minute (bpm)}$$

$$70\% \text{ of } 204 = 144.2\text{bpm} \quad 85\% \text{ of } 184 = 175.1\text{bpm}$$

Between 144.2bpm and 175.1bpm

Heart rate can then be monitored using a Polar Heart Rate Monitor. If during training, heart rate is lower than 142.8bpm then the player must increase the intensity of the run by speeding up. If heart rate is higher than 173.4bpm, then the player must lower the intensity of the run by slowing down.

Principles of Training

Once the area for improvement has been identified, and the appropriate method of training selected, a performance development plan should be designed which considers the principles of training. A performance development plan is a period of training designed to improve fitness over a period of time. Remember, one training session will not improve fitness levels but, if designed correctly, a period of training will.

The following factors or **principles of training** must be considered when designing a netball specific training programme:

- Specificity
- Progressive Overload
- Frequency
- Intensity
- Duration
- Adaptation
- Goal or target setting
- Reversibility

Specificity

Firstly it is vital that the method of training relates to the factor you are trying to improve. Secondly the method of training must be activity specific. You must tailor the training to match the actions used within the game. Netball involves a lot of running therefore this must be included in your training. Going swimming or cycling may have an affect on general cardio-respiratory endurance but research has shown that there is very little transfer of improvement to the specific cardio-respiratory endurance required in netball. Thirdly as mentioned above training must be specific to individual needs and capabilities.

Progressive Overload

In order to improve your level of performance over time training must become progressively more difficult. You can make it more difficult by overloading on any of 3 variables: frequency, intensity or duration. Overload is not applied to every training session but is applied after a period of time once improvement has occurred i.e. once your level of performance has improved to meet the demands of training.

Frequency

This is how often you train e.g. 3 times a week.

Intensity

This is how hard you train e.g. the speed you are running at or the training zone you are working in. It can also relate to the work: rest ratio.

Duration

This is how long you train for per session e.g. 30 minutes.

Goal or target setting

In order to stay motivated and have a focus you must first of all create goals / targets. It is important to continually remind yourself of your targets so that you have something to aim for. It is also important that goals are realistic and achievable.

Adaptation

It is important to vary training to avoid repetition which can lead to boredom. Being able to adapt training / practices keeps you motivated and allows for further improvements.

Reversibility

If a performer stops training then their fitness levels will begin to drop, possibly to a lower level than the level they started with. It is vital then that training is an ongoing process in order to maintain if not improve fitness levels.

My Personal Development Plan

Your plan must have a positive impact on your performance. It is therefore vital that you prepare a programme that is suited to your needs.

What is your target / goal?

Explain what methods of training will you use to ensure you meet your target?

How will your plan be set up?

Frequency:
Duration:
Intensity:
Progressive Overload (when & how):

How will you adapt your training?

--

My Personal Development Plan

	Session 1	Session 2	Session 3
Week 1			
Week 2			
Week 3			
Week 4			
Week 5			
Week 6			

Monitoring performance

It is vital to monitor progression when completing a personal development plan. This is so that we can ensure that improvements are being made over time and that you are reaching your target / goal.

There are a variety of ways that training can be monitored:

- Re-testing
- Training diary
- Feedback (from peer or teacher)

Re-testing

It is important that we re-test using the same protocol as we used in the initial tests. It is vital that these tests are not done too regularly though, or boredom could affect the results. The tests are also time consuming and if done regularly would be taking up valuable training time. It is advisable to re-test half way through a programme of work and at the end.

Feedback

This will be given to you continuously throughout your programme by a classmate or teacher. It is important that **you** seek feedback by asking questions to evaluate your progress.

Training Diary

This diary should be used to do the following:

- Record your development needs and targets
- Record your thought and feelings after you complete your training programme
- Detail any feedback you have received.
- Detail any changes you are going to make to your training programme

For example:

Session	Reflection/evaluation of training
1	<p>I completed 10 laps of the Fartlek circuit. The first few laps were relatively easy but then I found it harder and harder to run as fast as I could for the full length of each sprint section. Despite getting a rest during the walking and jogging sections I felt I had no energy towards the end.</p> <p>However as this was the first time I had completed this type of training I hope that my body will adapt to it and it will I cope better the next time. This will ensure that I am on track to meet my target.</p>

Give an example of how you monitored progress using each of the methods;

Feedback

Questions asked:

Comments from teacher / peer:

Training diary

Session _____

Session _____

Session _____

Re-testing

20 metre shuttle run test (Multi stage fitness test)

Initial score: _____

V02 max: _____

Comparison with national averages: _____

Re-test score 1: _____

Comparison with national averages 1: _____

Re-test score 2: _____

Comparison with national averages 2: _____

35m Speed Test

Initial score: _____

Comparison to national averages _____

Re-test score 1: _____

Comparison with national averages 1: _____

Re-test score 2: _____

Comparison with national averages 2: _____

Impact of my personal development plan

Now that you have completed your personal development plan it is important you evaluate its overall effectiveness.

Did you achieve your goal / target?

The overall effectiveness of your plan can relate to a number of factors;

- Variety of methods / drills used
- Appropriate methods / drills used
- Intensity of practice
- Having a realistic target
- Progression
- Comparison of scores

It is important that you can evaluate your plan to demonstrate that it was effective and has made a positive impact on your performance.

Example:

My plan was effective in helping me improve my movement around court. It was varied, which kept me interested and motivated. The changes I made to the methods of practice and to the drills helped keep me challenged. This allowed me to reach my target. My ability to provide more passing options for my team mate during games showed that I was able to move more effectively as the sessions went on.

Based on your **own** monitoring give 3 examples relating to the effectiveness of your plan in relation to your whole performance.

Future development needs

Being an excellent netball player will rely on your continually working to improve your performance. Now that you have completed a 6 week personal development plan, explain what factor you would like to concentrate on now and how you think this will allow you to make further improvements.

Example

I am now going to focus on a mental factor and in particular my ability to make effective decisions during games. This will allow me to use better offensive tactics against opposing teams that will maximise my strengths but exploit their weaknesses. Now that my fitness is better and I can effectively move around court, I want to increase the number of points we score in the game. By making good attacking decisions I can support my team in getting the ball up the court quicker and into the shooting circle for an unopposed shot at goal.

Identify and explain 2 of your future development needs:

S3 Homework

Homework 1

Copy and complete the tables below.

Aspect of fitness	Definition
Cardio Respiratory Endurance	
Speed	
Local Muscular Endurance	
Strength	
Power	
Flexibility	

Role	Responsibility
Centre	
Wing Attack	
Wing Defence	
Goal shooter	
Goalkeeper	
Goal Attack	
Goal Defence	

How many players are in a netball team?

How long does a netball game last?

List 3 netball rules you have learned

Homework 2

Complete pages 8 & 9 of your course notes booklet.

Homework 3

Create a poster that displays the following information:

- Your role
- Aspects of fitness that you require & why?
- The social factors your role requires

Your poster should be

- Creative / imaginative
- Colourful
- Informative

Homework 4

Complete page 1 of the log book.

Homework 5

Complete pages 2 & 3 of the log book.

Prepare for the end of unit assessment.

Homework 6

Revision questions

1. Give a definition of 5 of the physical factors that are important for an effective netball player.
2. What are the social factors that are important for an effective netball player?
3. What methods did you use to gather initial data on your performance?
4. Explain why these methods are appropriate.
5. Indicate which factor has a positive impact on your performance. Give an explanation of your strengths.
6. Indicate which factor has a negative impact on your performance. Give an explanation of your weaknesses.
7. What is your target / goal?

Homework 7

Complete pages 23 – 24 of your course notes.

Homework 8

Complete pages 25 – 27 of your course notes.

Homework 9

Complete page 4 - 6 of the log book.

Homework 10

Complete page 7 & 8 of the log book.

Homework 11

Complete page 9 & 10 of the log book.