

# **St Ninian's High School**

## **Physical Education**



### **S4 National 5**

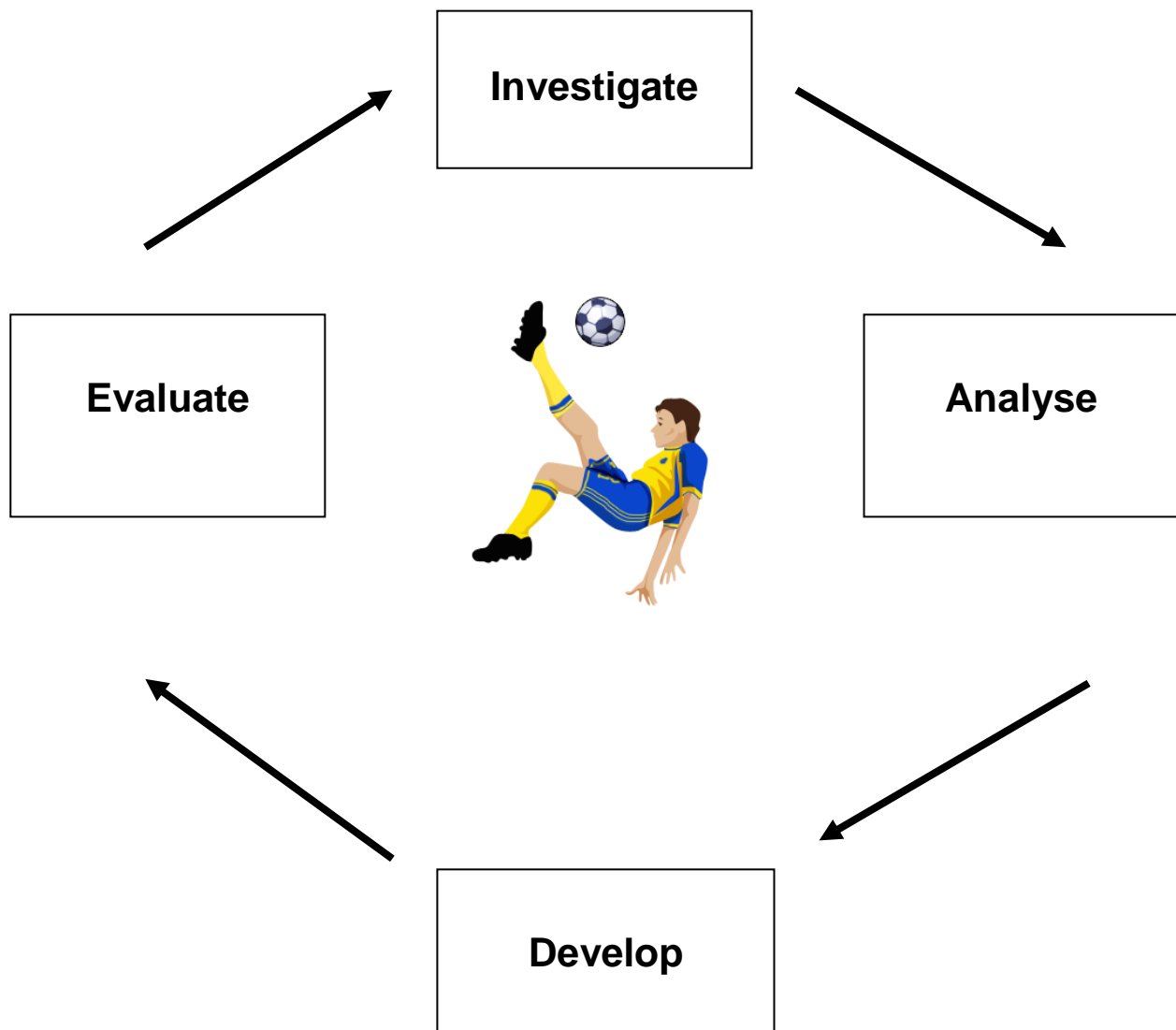
### **Football**

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## Cycle of Analysis

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



Within the football course you will focus on **physical factors** and **social factors**. You will investigate how these factors impact on your performance.

# **Factors Impacting on Performance**

In Football we will focus on two factors which impact on performance these factors are:

- **Physical Factor – Fitness**
- **Social Factor – teamwork, communication, Co-operation, adopting roles**

## **Physical Factor – Fitness**

By the end of the block you should understand which aspects of fitness are required for effective performance in your chosen role in football. Through testing you should also identify the aspects which are strengths and weaknesses within your performance.

## **Social Factor - teamwork, communication, Co-operation, adopting roles**

By the end of the block you should understand how social factors affect your teams' performance in a positive or negative way.

For example, you may find that your communication as a team is poor in your mid-field. This may cause gaps to develop and more scoring opportunities for the opposition.

## **Types of Fitness**

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.

## **Task 1:**

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

Why is **Speed** important in football?

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

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

- 
- To have the ability to pass, shoot and dribble 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.

## **Task 2:**

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

Why is **agility** important in football?

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

Why is **timing** important in football?

- 
- To make a pass at the correct time that will allow my team mate to receive it in the correct position.
- 
- During an attack to ensure each role is in the correct place at the correct time.



## **Methods of Training**

For this section you must know:

1. What methods of training are appropriate to improve CRE and Speed?
2. Whether these methods of training are carried out within or out with the activity
3. How to describe these methods of training in detail
4. How to describe a single training session

Now that you have gathered information on your performance and have analysed your results to determine what improvements have to be made. You must now select a method of training specific to the aspect 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 15 year old, the correct training zone to improve cardio respiratory endurance is:

$$220 - 15 = 205 \text{ beats per minute (bpm)}$$

$$70\% \text{ of } 205 = 143.5 \text{ bpm. } 85\% \text{ of } 205 = 174.2 \text{ bpm}$$

**Between 143.5bpm and 174.2bpm**

Heart rate can then be monitored using a Polar Heart Rate Monitor. If during training, heart rate is lower than 143.5bpm then the player must increase the intensity of the run by speeding up. If heart rate is higher than 174.2bpm, then the player must lower the intensity of the run by slowing down.

Other methods of training we look at are:

- Fartlek Training (CRE)
- Interval Training (Speed)

### **Task 3:**

You must describe both these methods of training in detail. Enter this information on the next page.

Fartlek Training:

Interval Training:

# **Principles of Training**

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

- Specificity
- Progressive Overload
  - Frequency
  - Intensity
  - Duration
  - Adaptation
  - Avoidance of Over Training
- Reversibility

## **Specificity**

Firstly it is vital that the method of training relates to the aspect of fitness 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. Football 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 football. 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 adaptation 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.

## **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.

## **Personal Development Plan**

A programme of work is designed to improve fitness over a period of time through training. One individual training session will not improve fitness, but a programme of training will.

Using the information you have learned about principles of training, you should now plan a 6 week programme of work to improve Cardio- Respiratory Endurance or speed. You should use the template on the next page.

**Task 4:**

**6 Week Personal Development Plan.**

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

## **Monitoring Training**

For this section you must know:

- 1) Why it is important to monitor training
- 2) How we monitor training
- 3) How to make adaptations to training if necessary

It is vital to monitor progression when completing a programme of work. This is so that we can ensure that improvements are being made over time. It is also important so that we can guard against overtraining.

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

- Training diary
- Re-testing
- Teacher feedback

### **Training Diary**

Your training diary will be used to record various things including:

- Your development needs and targets
- Your thoughts and feelings after you complete your training programme
- Any feedback (internal/external) you have received
- Any changes you are going to make to your training programme.

On pages 18-19, there is a training diary which you should complete after each training session.



## **Re-testing**

It is important that we re-test using the same protocol as we used in the initial tests. For example the environment, number of repetitions etc, must all remain the same to ensure results are valid and reliable. Tests should be completed at the beginning, middle and end of a training programme/programme of work.

## **Teacher feedback**

This will be given to you continuously throughout your programme by your teacher. The feedback should be accurate and positive.

# Training Diary

For example:

<b>Session</b>	<b>Reflection/evaluation of training</b>
<b>1</b>	<p>I completed Interval Training to develop my speed. It took me 4 seconds to sprint 20 metres. The work to rest ration I began with was 3:1, meaning that I worked for 4 seconds and rested for 12 seconds. I completed this 20 times and towards the end I had no energy and my speed deteriorated.</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 cope better the next time. This will ensure that I am on track to meet my target.</p>

**Session 1**

**Session 2**

**Session 3**

**Session 4**

**Session 5**

**Session 6**

## 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 better 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**

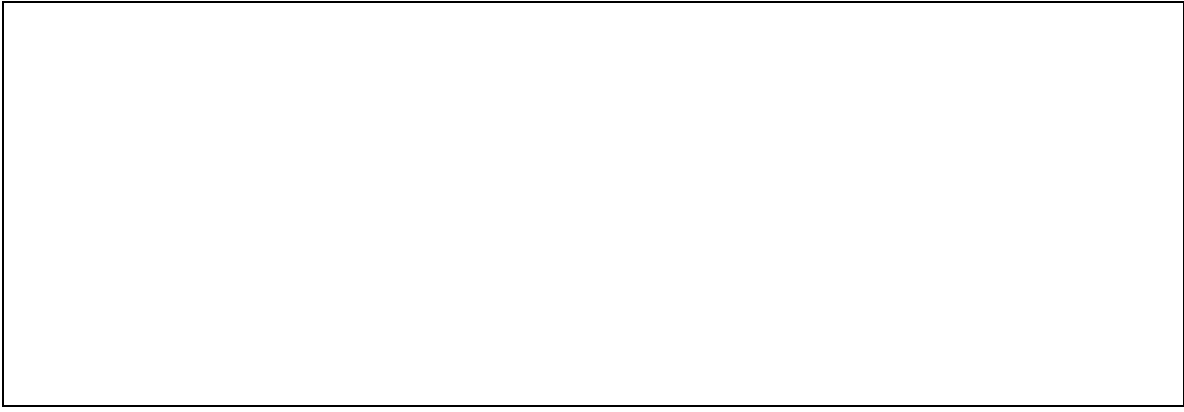
Being an excellent netball player will rely on your continually working to improve your performance. Now that you have completed a 6 week personal development plan, explain what factor you would like to concentrate on now and how you think this will allow you to make further improvements.

### 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:





**Task 6:**

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

**Physical**  **Social**

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

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

**Physical**  **Social**

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

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## Homework 1

1. Describe, in detail, the fitness demands for your chosen activity.

(4 marks)

2. Select one aspect of fitness from your chosen activity. Describe how you assessed your level of fitness for this aspect.

(4 marks)

3. How did the aspect of fitness, selected in Q2 affect your performance?

(4 marks)

### **Homework 3**

1. In relation to your own performance, what did you need to consider before you carried out your training programme?

(4 marks)

2. Describe your training programme for the aspect of fitness you considered to be your weakness.

(4 marks)

## **Homework 4**

1. What principles of training did you consider when planning a training programme?

(4 marks)

2. How did you apply these principles of training in your training programme?

(5 marks)

## Homework 5

1. Explain why it is important to monitor your training programme.

(3 marks)

2. How did you monitor your performance with your training programme?

(4 marks)

3. Describe the effects that your training programme had on your performance.

(4 marks)