

3.1 Health & Fitness and the Role that Exercise Plays in Both

3.2 The Components of Fitness

Name _____

Class _____



	Description from Specification	Pupil comments – How confident do you feel on this topic?
Health and fitness	Definitions of health and fitness.	
The relationship between health and fitness The relationship between health and fitness.	Decreased fitness because of ill health, ie poor health can result in an inability to train, lowers fitness. Increased fitness despite ill health, ie unhealthy but able to train, increases fitness.	
The components of fitness	Definitions of the following components of fitness: agility, balance, cardiovascular endurance (aerobic power), coordination, flexibility, muscular endurance, power/explosive strength (anaerobic power), reaction time, strength (maximal, static, dynamic and explosive), speed.	
Linking sports and physical activity to the required components of fitness	Understand and justify why the components of fitness (as stated above) may or may not be needed when performing certain physical activities and sports.	
Reasons for and limitations of fitness testing	Reasons for fitness testing: To identify strengths and/or weaknesses in a performance/the success of a training programme, to monitor improvement, to show a starting level of fitness, to inform training requirements, to compare against norms of the group/national averages, to motivate/sets goals, to provide variety to a training programme. Limitations of fitness testing: Tests are often not sport specific/too general, they do not replicate movements of activity, they do not replicate competitive conditions required in sports, many do not use direct measuring/submaximal - therefore inaccurate/some need motivation/some have questionable reliability, they must be carried out with the correct procedures to increase validity.	

<p>Measuring the components of fitness</p>	<p>Knowledge of the main procedures of the tests used to measure the following components of fitness: Agility – Illinois Agility Test. Balance – Stork Balance. Cardiovascular endurance (aerobic power) – Multi Stage Fitness Test. Coordination – Wall Toss Test. Flexibility – Sit and Reach Test. Muscular endurance – Sit-Up Bleep Test. Power/explosive strength (anaerobic power) – Vertical Jump Test. Reaction time – Ruler Drop Test. Maximal strength – One Rep Max Test. Speed – 30 Metre Sprint Test. Strength – Handgrip Dynamometer Test.</p> <p>Testing procedures refers to 'how each test is carried out' and includes reference to how the test is organised (when applicable) in relation to the following: The facilities and the equipment needed to set it up, the procedures that have to be followed – the tasks and the rules, the measurements that are used to score the performance, the way conclusions are drawn from the scores/results. Evaluate whether or not these tests are relevant to performers in different sporting activities.</p>	
<p>Demonstration of how data are collected for fitness testing</p>	<p>Understanding of how test scores are measured/recorded (eg in seconds, levels, centimetres,numbers). Definitions of the terms qualitative and quantitative, in relation to the collection of fitness testing data. Understanding that the quantitative data collected during fitness testing can be compared to national averages.</p>	

Health & Fitness:

Health -

Fitness -

Name a sport that you regularly participate in:

Do you need to be healthy in order to take part in this sport?

Would ill health effect your ability to train or improve in this sport?

What are the fitness demands of this activity?

Name – Andy Fordham

Facts:

- Weighs 25 stone
- Age 51
- World darts champion on two occasions
- Waiting for a liver transplant due to alcohol abuse
- Happily married with 2 children



Is this person healthy?

Is this person fit?

Does this person regularly take part in exercise?

Does this person show a good performance in their sport?

Name – Oscar Pistorius

Facts:

- Double Amputee
- First ever amputee to win an able bodied track medal
- Paralympic champion (400m)
- Was put on trial after shooting his girlfriend
- Broke down mentally on several occasions during the court case



Is this person healthy?

Is this person fit?

Does this person regularly take part in exercise?

Does this person show a good performance in their sport?

Hint – Make sure you know the definitions for all 10 components of fitness

Components of Fitness:

There are 10 components of fitness which help athletes to stay fit and healthy, as well as improving their skill level.

1.

Definition –

Sport associated with:

How I use it in my sport:

2.

Definition –

Sport associated with:

How I use it in my sport:

3.

Definition –

Sport associated with:

How I use it in my sport:

4.

Definition –

Sport associated with:

How I use it in my sport:

5.

Definition –

Sport associated with:

How I use it in my sport:

6.

Definition –

Sport associated with:

How I use it in my sport:

7.

Definition –

Sport associated with:

How I use it in my sport:

8.

Definition –

Sport associated with:

How I use it in my sport:

9.

Definition –

Sport associated with:

How I use it in my sport:

10.

Definition –

Sport associated with:

How I use it in my sport:

Fill in the tables below, ensuring that you mention each component of fitness at least once.

Activity - Football	
Component of Fitness	Explain why this is important

Activity – Marathon Running	
Component of Fitness	Explain why this is important

Activity - Tennis	
Component of Fitness	Explain why this is important

Activity – Weight Lifting	
Component of Fitness	Explain why this is important

Activity – Cycling	
Component of Fitness	Explain why this is important

Activity – Gymnastics	
Component of Fitness	Explain why this is important

Name each of the sportspeople shown below, label their sport and describe which component of fitness is most important to them. Make sure you use all 10 components of fitness.



Fitness Tests:

Fitness Test	Component of Fitness being tested	Sport(s) most useful for	Description of test	My score	My score in relation to the population (my age group)
Multi-Stage Fitness Test					
Stork Balance					
One Rep Max Test					
Sit Up Bleep Test					
Handgrip Dynamometer Test					

Fitness Test	Component of Fitness being tested	Sport(s) most useful for	Description of test	My score	My score in relation to the population (my age group)
Ruler Drop Test					
30m sprint					
Vertical Jump					
Sit and Reach					
Illinois Agility Test					
Wall Toss Test					

The following statements are all reasons why a person might take part in fitness testing. Can you fill in the gaps using the words provided?

Training Programme Fitness Goals Strengths National Monitor

- To identify _____ and/or weaknesses
- To _____ improvement
- To show a starting level of _____
- To inform _____ requirements
- To compare against the _____ average
- To motivate and set _____
- To provide variety to a training _____

Procedure Motivation Competitive Specific Replicate

The following statements are all limitations of fitness testing. Can you fill in the gaps using the words provided?

- Tests are often not sport _____
- They do not always _____ the movements of an activity
- They do not always replicate _____ conditions that are required in sports
- Many of the tests require high _____
- In order to be valid, the correct _____ must always be followed



The data collected from fitness tests is largely quantitative data. What is quantitative data?

What is qualitative data?

Exam Questions

Strength and reaction time are components of fitness.

Assess the importance of each of these components of fitness to a weight lifter.

i) Strength (2)

ii) Reaction Time (2)

Jenny is a 16-year-old GCSE PE student. She has just taken the Multi-Stage Fitness Test.

The information below shows ratings for the Multi-Stage Fitness Test.

Age	Excellent	Above Average	Average	Below Average
15-16	>12.1	9.5-12.0	7.6-9.4	<9.4

Which one of the following is the correct rating for Jenny, given her score of 9.7 in the Multi-Stage Fitness Test? (1)

- A Excellent
- B Above average
- C Average
- D Below average

Define the term muscular endurance. (1)

Which fitness test is most suitable for assessing muscular endurance? (1)

Give one example of why a rugby player requires good muscular endurance. (1)

Key Terms:

Health – A state of complete emotional, physical and social well-being and not merely the absence of disease and infirmity

Fitness – The ability to meet the demands of the environment

Cardiovascular Endurance – The ability of the heart and lungs to supply oxygen to the working muscles.

Strength – The ability to overcome a resistance

Muscular Endurance – The ability of a muscle or muscle group to undergo repeated contractions avoiding fatigue

Flexibility – The range of movement possible at a joint

Agility – The ability to move and change direction quickly (at speed) whilst maintaining control

Balance – The maintenance of the centre of mass over the base of support

Co-ordination – The ability to use different (two or more) parts of the body together smoothly and efficiently

Power – The product of strength and speed, i.e. strength x speed

Reaction Time – The time taken to initiate a response to a stimulus

Speed – The maximum rate at which an individual is able to perform a movement or cover a distance in a period of time. Speed = distance ÷ time

Quantitative Data – Information about quantities that can be compared and measured

Qualitative Data – Information about qualities which is difficult to measure