

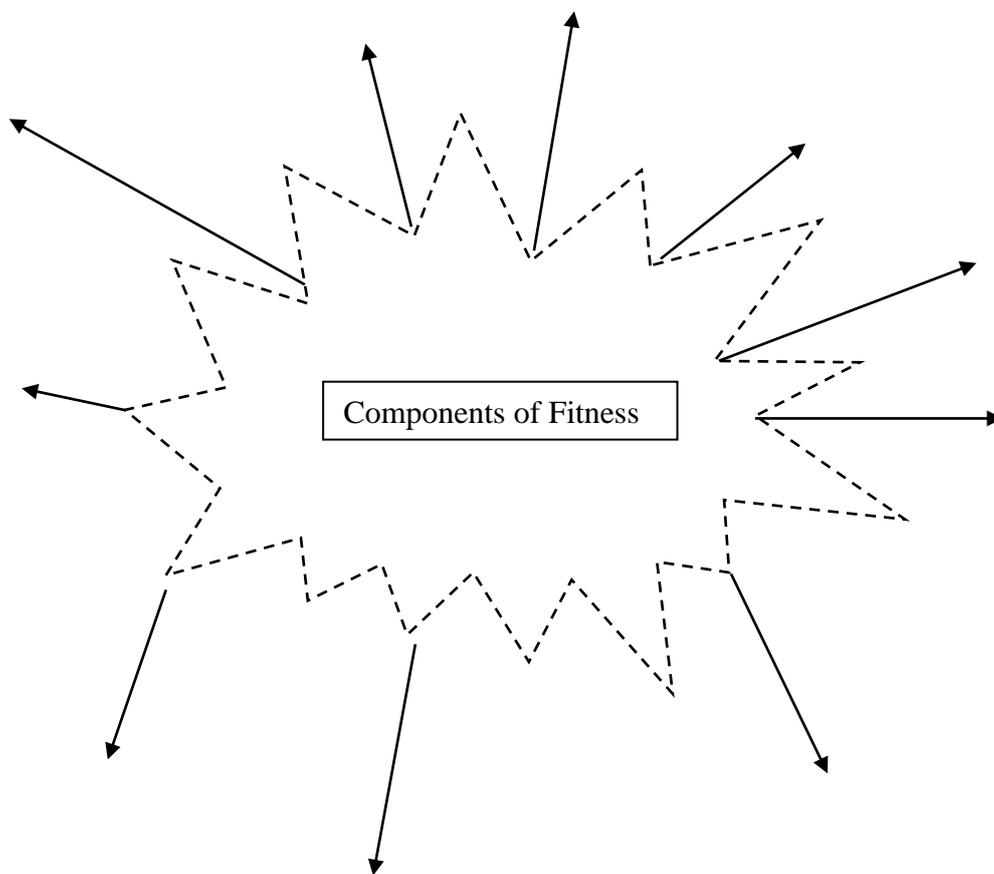
## **Topic: 1.2.a**

# **Components of Fitness**

- To know and understand the components fitness.
- To describe the relative importance of these components for physical activity and sport.
- To understand the individual testing protocols for the components of fitness.
- To be able to interpret data relating to fitness tests and analyse against normative values.

# What are the 10 Fitness components?

What is your sport? \_\_\_\_\_



# Components of fitness

Fitness can be seen as a group of components that if trained will enable the body to do more work and for longer, as well as be more skillful in the sport activities.

Remember components of fitness can be used separately or in combination with each other.

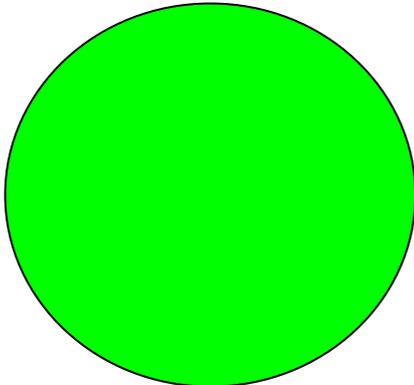
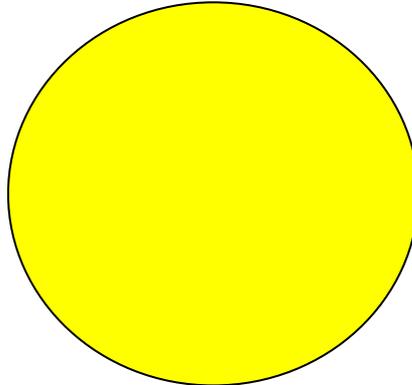


## Fitness Components in Sport

Which Components of fitness are needed for these sports.....? Divide the pie charts up to show the most relevant components in order of importance (%)



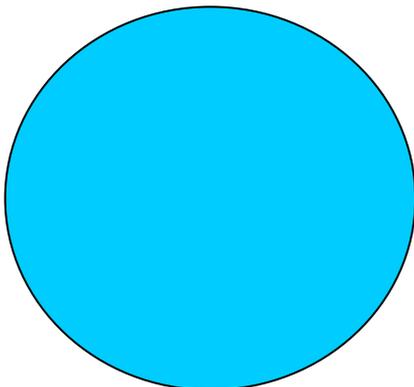
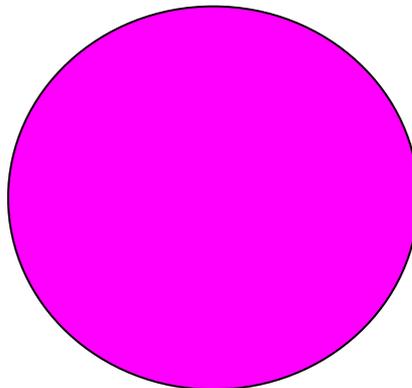
**Gymnast**



**Goal Keeper**



**Shot Putter**



**Swimmer**

### Components

Cardiovascular Endurance

Muscular Endurance

Strength

Flexibility

Balance

Speed

Power

Reaction Time

Agility

Co-Ordination

# Cardiovascular Endurance/ Stamina

The cardio-respiratory system deals with the heart, lungs and blood vessels of the body. Aerobic system uses O<sub>2</sub> to breakdown carbohydrates and converts to energy.



Definition:

Sporting Examples:

Fitness Tests:

Key Words:

VO<sub>2</sub> max – the maximum amount of oxygen an individual can take in and use in one minute

Aerobic – with oxygen

# Muscular Endurance

By exercising, the size and number of mitochondria in muscles increase along with myoglobin within muscle cell.



Definition:

Sporting Examples:

Fitness Tests:

Key Words:

Lactic Acid – Biproduct created during anaerobic respiration

Anaerobic – Respiration without oxygen

# Speed

Speed is helped if you are fit and healthy by:

Your heart and lungs are more efficient

Muscles can move quicker because they have more energy available

Energy available is greater because your muscles are more efficient in producing energy

Your joints are healthier and therefore they can help to move more efficient



Definition:

Sporting Examples:

Fitness Tests:

# Strength



Definition:

Different types of strength

Sporting Examples:

Fitness Tests:

Key Words:

Anaerobic – without oxygen

Lactic Acid – Biproduct created during anaerobic respiration

# Power

Power is an important component of fitness that is used in many dynamic sports activities. Power is important in explosive events



Definition:

Sporting Examples:

Fitness Tests:

# Flexibility

The structure of the joint restricts movements as well as the muscles, tendons and ligaments. It is important to have flexibility to prevent strains and it enables us to move quicker.



Definition:

Sporting Examples:

Fitness Tests:

When we are flexible: our ligaments and supporting tissues can stretch further, the blood flow to our muscle is improved & this help with flexibility. The rise in muscle temperature can help the muscles to be more flexible and you can stretch further.

# Agility



Definition:

Sporting Examples:

Three main components of agility:

Core Strength – transfer power from feet/legs to the upper body and transfer that energy back and forth.

Balance - control of their body at all times to make correct moves in their sport.

Flexibility – move body in efficient manner

Fitness Tests:

# Balance

Balance can be static (still) or dynamic (moving but controlled). Balance is crucial component of fitness for many different activities. It helps co-ordination and fluency in movement as well as protecting the body and keeping the athlete safe.



Definition:

Sporting Examples:

Fitness Tests:

# Co-ordination

An athlete who makes a decision and then puts it into action effectively is showing good co-ordination.



Definition:

Sporting Examples:

Fitness Tests:

# Reaction Time



Definition:

Sporting Examples:

Fitness Tests:

## Components of Fitness

Task: Choose two sports and, for each one, **EXPLAIN** the two most important physical fitness components.

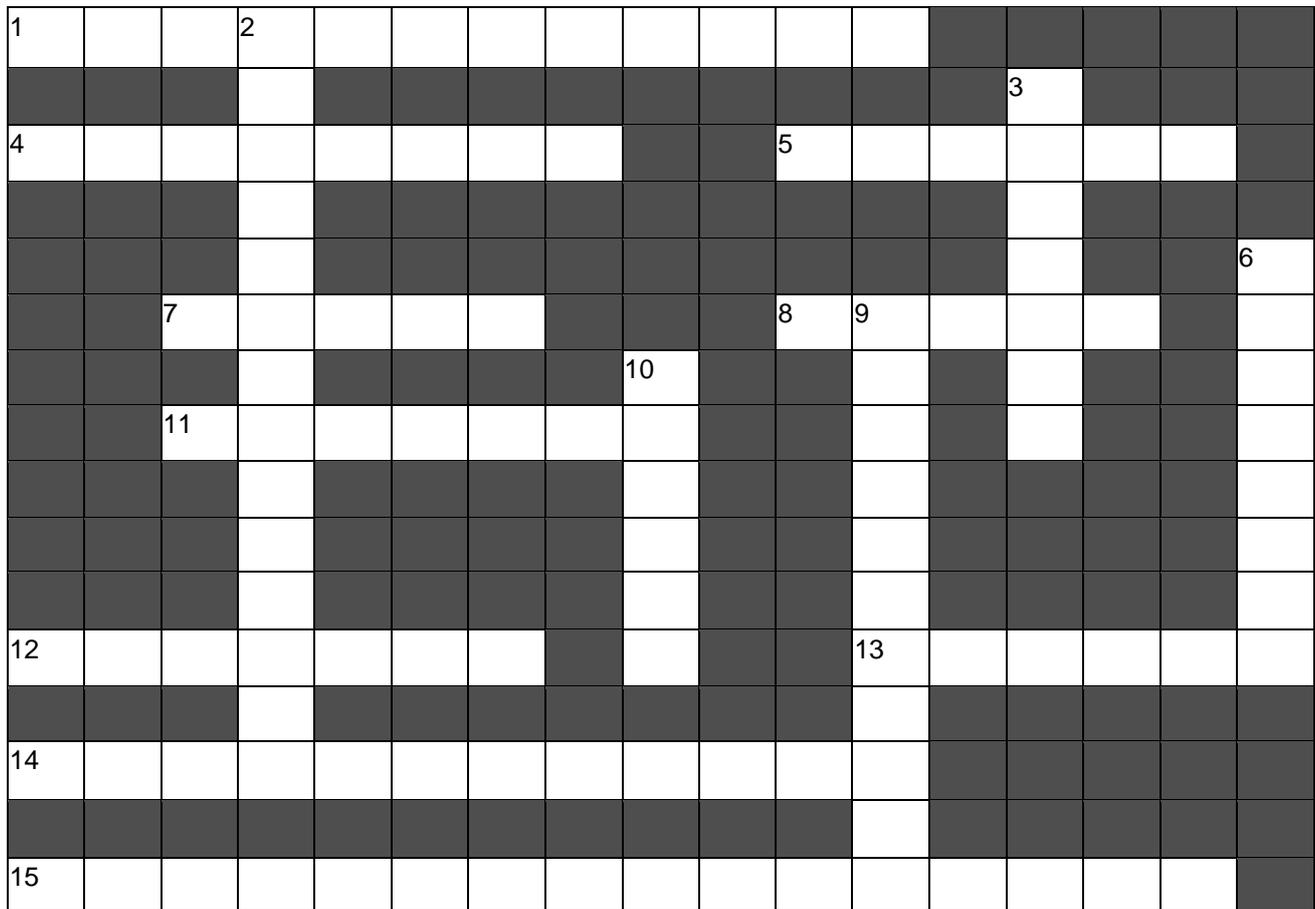
**Sport 1:** \_\_\_\_\_ **(Team)**

Component of Fitness	Explanation

**Sport 2:** \_\_\_\_\_ **(Individual)**

Component of Fitness	Explanation

## Component of Fitness Crossword



### Clues across

1. 2 words 8,4. Essential for a sprinter when the gun fires and he/she starts to move
4. A form of physical activity done primarily to improve one's health and fitness
5. One of those three aspects of good health
7. Speed x strength
8. You need to perform a movement in the shortest period of time
11. This component is essential when still (static) or on the move (dynamic) e.g. a cricketer spins on one foot while playing a shot
12. The ability to change the position of the body quickly and to control the movement of the whole body, e.g. a rugby player dodges past an opponent
13. Another of those three aspects of good health
14. The ability to use two or more body parts together
15. 2 words 8, 8 Health Related when the muscle exerts its strongest force to lift a very heavy weight

### Clues down

2. This aspect is essential to a marathon runner
3. The ability to meet the demands of the environment
6. One of the three aspects of good health
9. How well a task is completed



## Exam questions

1. Which **one** of the following performers relies most heavily on a high level of cardiovascular fitness for success? **(1)**

- A 200m runner
- B 400m runner
- C 800m runner
- D 1500m runner

2. Which one of these describes flexibility? **(1)**

- A Changing direction at speed with control
- B Combination of strength and speed
- C Range of movement possible at a joint
- D Supplying oxygen to the working muscles

3. Briefly explain how the gymnast has used power **and** coordination to achieve the position shown in **Figure 3**.

Strength **(2)**

Coordination **(2)**



4. Usman has a short stride length.

To improve his range of movement he works on his  
..... a component of fitness.

(ii) Name a fitness test that Usman could use to  
monitor improvement in this component of fitness.

4. The vertical jump test measures leg power.

Discuss the suitability of this test for a football  
player.(3)

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5. Identify a suitable test that can be used to assess the  
stamina of a marathon runner.

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