



PE.PT2 Components of Fitness: Skill-Related Components and Fitness Testing

AQA 8582 · Calculator allowed · about 50 minutes

Total Marks

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Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

1 Which fitness test is designed to measure a performer's agility?

- ☐ A) Illinois agility test
- ☐ B) 30 metre sprint test
- ☐ C) Vertical jump test
- ☐ D) Ruler drop test

(Total for Question 1 is 1 mark)

2 State what is meant by each of the following skill-related components of fitness.

- | | |
|--------------------|-----|
| (a) Agility. | (1) |
| (b) Balance. | (1) |
| (c) Coordination. | (1) |
| (d) Power. | (1) |
| (e) Reaction time. | (1) |
| (f) Speed. | (1) |

(Total for Question 2 is 6 marks)

3 Name the fitness test used to measure agility.

(Total for Question 3 is 1 mark)

4 Describe how the Illinois agility test is carried out.

(Total for Question 4 is 3 marks)

5 Name the fitness test used to measure balance.

(Total for Question 5 is 1 mark)

6 Describe how the standing stork test is carried out.

(Total for Question 6 is 3 marks)

7 Name the fitness test used to measure reaction time.

(Total for Question 7 is 1 mark)

8 Describe how the ruler drop test is carried out, and state which result (a shorter or longer distance caught) indicates a faster reaction time.

(Total for Question 8 is 3 marks)

9 Name the fitness test used to measure power.

(Total for Question 9 is 1 mark)

10 The vertical jump test compares a performer's standing reach height with their jump-touch reach height.

(a) Describe how the vertical jump test is carried out. (2)

(b) A performer has a standing reach of 210 cm and a jump-touch reach of 250 cm. (2)
Calculate their vertical jump score.

.....
(Total for Question 10 is 4 marks)

11 Name the fitness test used to measure coordination.

(Total for Question 11 is 1 mark)

12 Describe how the alternate-hand wall-toss test is carried out.

(Total for Question 12 is 2 marks)

13 Name the fitness test used to measure speed.

(Total for Question 13 is 1 mark)

- 14** Table 1 shows the results of three performers on three skill-related fitness tests, alongside a simplified classroom rating table.

Table 1: Results

Performer	Illinois agility (seconds)	Vertical jump (cm)	Ruler drop (cm)
Freya	15.8	38	12
George	17.9	52	22
Hana	16.4	44	8

Table 2: Simplified classroom rating bands (note: for agility and reaction time, a LOWER number is a BETTER result)

Rating	Illinois agility (seconds)	Vertical jump (cm)	Ruler drop (cm)
Excellent	below 16.0	50 or above	below 10
Good	16.0 to 17.0	40 to 49	10 to 15
Average	17.1 to 18.0	30 to 39	16 to 22
Below average	above 18.0	below 30	above 22

- (a) Using Table 2, state Freya's rating for the Illinois agility test. (1)
- (b) Using Table 2, state George's rating for the vertical jump test. (1)
- (c) Identify which performer has the best (fastest) rating for reaction time, and state their rating. (2)

(Total for Question 14 is 4 marks)

15 A badminton player wants to improve their ability to change direction quickly around the court to reach the shuttle.

(a) State the skill-related component of fitness most relevant to this goal. (1)

(b) Name a suitable fitness test the player could use to measure this component. (1)

(c) Explain why this component is particularly important for badminton. (2)

(Total for Question 15 is 4 marks)

16 Explain why reaction time is particularly important for a sprinter starting a 100 metre race from the blocks.

(Total for Question 16 is 2 marks)

17 Which of these sports relies most heavily on balance as a skill-related component of fitness?

- ☐ A) Gymnastics beam routine
- ☐ B) Marathon running
- ☐ C) Shot put
- ☐ D) Long-distance swimming

(Total for Question 17 is 1 mark)

18 Explain why a fitness test result, such as an Illinois agility time, should always be interpreted alongside knowledge of the specific demands of a performer's sport, rather than in isolation.

(Total for Question 18 is 3 marks)

- 19** State which skill-related component of fitness is best defined as 'the ability to maintain the centre of mass over the base of support'.

(Total for Question 19 is 1 mark)

- 20** Aisha is an under-16 netball goal attack. During matches she needs to react quickly to intercept passes, change direction sharply to lose her marker, and jump to catch high passes above defenders.

Evaluate which skill-related components of fitness are most important to Aisha's role as goal attack, and discuss how she could test and train these components.

(Total for Question 20 is 9 marks)

Mark scheme · PE.PT2 Components of Fitness: Skill-Related Components and Fitness Testing

Question 1

- **B1** A (Illinois agility test)
- **Answer: A (Illinois agility test)**

Question 2

- (a) **B1** the ability to change direction (or body position) quickly and under control, oe
- **(a) Answer: The ability to change direction quickly and under control.**
- (b) **B1** the ability to maintain the centre of mass over the base of support, oe
- **(b) Answer: The ability to maintain the centre of mass over the base of support.**
- (c) **B1** the ability to use two or more body parts together smoothly and efficiently, oe
- **(c) Answer: The ability to use two or more body parts together smoothly and efficiently.**
- (d) **B1** the product of strength and speed; the ability to perform a strength movement quickly (explosively), oe
- **(d) Answer: The ability to perform a strength movement quickly and explosively (strength multiplied by speed).**
- (e) **B1** the time taken to respond (start moving) to a stimulus, oe
- **(e) Answer: The time taken to respond to a stimulus.**
- (f) **B1** the rate at which a performer is able to move across a distance, oe
- **(f) Answer: The rate at which a performer is able to move across a given distance.**

Question 3

- **B1** Illinois agility test
- **Answer: The Illinois agility test.**

Question 4

- **B1** the test uses a marked course, typically 10 metres by 5 metres, with cones set out including a line of cones down the centre, oe
- **B1** the performer starts lying face down (or as instructed) and, on the command 'go', runs the set course as fast as possible, weaving around the central cones, oe
- **B1** the time taken to complete the course is recorded; a faster time indicates better agility, oe
- **Answer: The performer runs a set course, typically 10 metres by 5 metres, marked out with cones including a central line of cones to weave around, starting from a lying position and running as fast as possible on the command 'go'. The time taken to complete the course is recorded, with a faster time indicating better agility.**

Question 5

- **B1** standing stork test
- **Answer: The standing stork test.**

Question 6

- **B1** the performer stands on their dominant leg with hands on hips and places the sole of the other foot against the inside of the standing knee, oe
- **B1** on command, the performer raises their heel off the ground to balance on the ball of the foot, oe
- **B1** the time is recorded until balance is lost (e.g. the heel touches down, the raised foot moves, or hands leave the hips); a longer time indicates better balance, oe
- **Answer: The performer stands on their dominant leg with hands on hips, places the other foot's sole against the inside of the standing knee, then raises their heel to balance on the ball of the foot. The time is recorded until balance is lost, with a longer time indicating better balance.**

Question 7

- **B1** ruler drop test
- **Answer: The ruler drop test.**

Question 8

- **B1** the tester holds a ruler vertically with the zero mark level with the performer's open finger and thumb, oe
- **B1** without warning, the tester releases the ruler and the performer catches it as quickly as possible between finger and thumb, oe
- **B1** the distance the ruler fell before being caught is read off the ruler; a SHORTER distance indicates a FASTER reaction time, oe
- **Answer: The tester holds the ruler vertically with the zero mark level with the performer's finger and thumb, then releases it without warning; the performer catches it as fast as possible. The distance the ruler fell before being caught is recorded, and a SHORTER distance indicates a FASTER reaction time.**

Question 9

- **B1** vertical jump test (Sargent jump test)
- **Answer: The vertical jump test (Sargent jump test).**

Question 10

- (a) **B1** the performer stands side-on to a wall and reaches up with one arm to mark their standing reach height, oe
- (a) **B1** the performer then jumps as high as possible from a standing position and marks the highest point touched; the difference between the two heights is the score, oe
- (a) **Answer: The performer marks their standing reach height against a wall, then jumps as high as possible from standing and marks the highest point touched; the difference between the two marks is the score.**
- (b) **M1** 250 - 210, oe
- (b) **A1** 40 cm
- (b) **Answer: 40 cm.**

Question 11

- **B1** alternate-hand wall-toss test
- **Answer: The alternate-hand wall-toss test.**

Question 12

- **B1** the performer stands a set distance from a wall and throws a ball against it with one hand, oe
- **B1** the ball is caught with the OTHER hand and thrown back, alternating hands continuously for a set time; the number of successful catches is recorded, oe
- **Answer: The performer stands a set distance from a wall and throws a ball against it with one hand, catching it with the other hand and throwing it back, alternating hands continuously for a set time; the number of successful catches is recorded.**

Question 13

- **B1** 30 metre sprint test
- **Answer: The 30 metre sprint test.**

Question 14

- (a) **B1** Excellent (15.8 seconds is below 16.0)
- (a) **Answer: Excellent.**
- (b) **B1** Excellent (52 cm is 50 cm or above)
- (b) **Answer: Excellent.**
- (c) **B1** Hana
- (c) **B1** Excellent (8 cm is below 10 cm)
- (c) **Answer: Hana, whose ruler drop distance of 8 cm is rated Excellent.**

Question 15

- (a) **B1** agility
- (a) **Answer: Agility.**
- (b) **B1** Illinois agility test
- (b) **Answer: The Illinois agility test.**
- (c) **B1** badminton involves frequent, unpredictable changes of direction around the court to reach shots played to different areas, oe
- (c) **B1** so a player who can change direction faster and more efficiently can reach and return more shots, gaining an advantage over an opponent, oe
- (c) **Answer: Badminton involves frequent, unpredictable changes of direction to reach shots played to different areas of the court, so a player with better agility can reach and return more shots, giving them an advantage over their opponent.**

Question 16

- **B1** the sprinter must respond to the starting gun as quickly as possible, oe
- **B1** since a 100m race is decided by very small time differences, a slower reaction at the start adds directly to the sprinter's overall finishing time and can be enough to lose the race, oe
- **Answer: The sprinter must respond to the starting gun as quickly as possible; because a 100m race is decided by very small time differences, a slower reaction at the start adds directly to the sprinter's overall finishing time and can be enough on its own to lose the race.**

Question 17

- **B1** A (gymnastics beam routine)
- **Answer: A (gymnastics beam routine)**

Question 18

- **B1** a fitness test score only shows how a performer compares against a general rating scale, not whether that level of the component actually matters for their specific sport, oe
- **B1** a performer could have an 'excellent' rating for a component their sport barely uses (e.g. very high agility for a shot putter), which would not be a meaningful priority for their training, oe
- **B1** so results are most useful when compared against the specific demands of the performer's role/sport, to identify components that are BOTH below the required standard AND relevant to performance, oe
- **Answer: A test score alone only shows how a performer compares to a general rating scale, not whether that component actually matters for their sport; a performer could be rated 'excellent' in a component their sport barely uses, which would not be a useful training priority. Results are most useful when compared against the specific demands of the performer's own sport, to find components that are both below standard and genuinely relevant.**

Question 19

- **B1** balance
- **Answer: Balance.**

Question 20

- **Level 3** (7-9): A detailed and coherent response that identifies the skill-related components most relevant to Aisha's role, applies the discussion specifically to the goal attack position described (intercepting, losing a marker, jumping to catch), and evaluates suitable testing and training methods with a balanced, well-reasoned judgement. Sustained, accurate use of terminology throughout.
- **Level 2** (4-6): Some accurate identification of relevant components and some discussion of testing/training methods, with partial application to Aisha's specific role, but coverage may be incomplete or the evaluation may be underdeveloped or one-sided.
- **Level 1** (1-3): Basic or generic statements about skill-related fitness with little or no application to Aisha's specific role, and little or no discussion of testing or training.
- **Level 0** (0): No relevant content.
- **Indicative content:**
 - Reaction time is important for intercepting passes, since Aisha must respond very quickly to an opponent's or teammate's pass before it is caught by someone else; this could be tested with the ruler drop test and trained through reaction drills.
 - Agility is important for losing her marker, since she needs to change direction quickly and under control to create space to receive the ball; this could be tested with the Illinois agility test and trained through cone/ladder agility drills.
 - Power is important for jumping to catch high passes above defenders, since this requires an explosive leg contraction to reach maximum jump height; this could be tested with the vertical jump test and trained through plyometric exercises such as bounding or box jumps.
 - Balance may also be relevant when landing after a jump or pivoting to pass on, since losing balance could lead to a footwork infringement or turnover.
 - Coordination supports catching a high pass cleanly while under pressure from a defender, linking eye tracking of the ball with hand positioning.
 - A balanced evaluation should note that not all six skill-related components are equally important to this specific role; reaction time, agility and power stand out as the priorities given the demands described, so training time should be weighted toward these rather than spread evenly across all six.
 - Testing all three priority components before and after a training block would let a coach check whether training has been effective, and help set realistic, sport-specific starting points for Aisha's programme.