

VOCATIONAL



WJEC Level 1/2 Vocational Award in SPORT AND COACHING PRINCIPLES

REGULATED BY OFQUAL
DESIGNATED BY QUALIFICATIONS WALES

SAMPLE ASSESSMENT MATERIALS - EXTERNAL

Teaching from 2018
For award from 2020





WJEC Level 1/Level 2 Vocational Award in Sport and Coaching Principles

SAMPLE EXTERNAL ASSESSMENT

For teaching from 2018

For certificate from 2020

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LEVEL 1/2

XXXX/01

VOCATIONAL AWARD IN SPORT AND COACHING PRINCIPLES

UNIT 2: FITNESS FOR SPORT

Sample Assessment

90 minutes

INSTRUCTIONS TO CANDIDATES

Answer **all** questions.

Type your answers in the boxes provided on screen.

Please note: The size of the box does not limit the length of your answer. A scroll bar will appear as you continue to type. **Do not** try to format your text using keyboard shortcuts.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

The total mark is 90.

Some questions might require you to navigate down the page using the scroll bar on the right of the screen.

An 'End of Question' message will show at the bottom of a scrolling question.

1. (a) Match the definition of the body system to the name:

Drag and drop each energy system into the correct box.

[3]

| Musculo-skeletal System | Cardio-Respiratory System | Aerobic Energy System |
|---|---------------------------|-----------------------|
| This system provides form, support, stability, and movement to the body. | | |
| This system produces the largest amounts of energy, although at the lowest intensity. | | |
| This is the interaction of the heart, blood vessels, and lungs as they work to take in oxygen for cellular use and remove waste products from the body. | | |



- (b) (i) For these two athletic events, choose the component of fitness that you think is most important to them. State the definition of the components of fitness you have chosen and explain why you have chosen them and how they are used by the athletes during their performances. You must choose a different component of fitness for each athletic event.

Most Important Component of Fitness for a Sprinter:

[1]

Definition:

[1]

Explanation of How Component of Fitness is Used by a Sprinter:

[2]

Most Important Component of Fitness for a Shot Putter:

[1]

Definition:

[1]

Explanation of How Component of Fitness is Used by a Shot Putter:

[2]

- (ii) Select a training method for each of the components of fitness that you have written about in b(i). Explain why you have chosen these training methods.

Component of Fitness:

[3]

Training Method 1

Component of Fitness:

[3]

Training Method 2

- (c) Fitness tests are often used to measure a sportsperson's level of fitness in different components of fitness. Assess the importance of validity and reliability when carrying out fitness tests.

[3]

End of Question

2.



- (a) (i) Identify four personal factors that Neil will have to consider before he starts his new training programme. [4]

Personal Factors

| | |
|----|--|
| 1. | |
| 2. | |
| 3. | |
| 4. | |

- (ii) Neil completed a number of fitness tests before starting his new training programme. Compare Neil's results to the norm tables provided and state which category Neil has reached for each test. [3]

Neil's Fitness Test Results

| Fitness Test | Test Result | Category |
|--------------------------------|-------------------|----------|
| Sit and Reach Flexibility Test | +2cm | |
| Bleep Test | Level 5 Shuttle 2 | |
| 1 Rep Max Bench Press | 65 kg | |
| Weight | 95 kg | |

Normative data

All normative data used in sheets 1, 2, 3 and 4 below has been cited in: Wood, R.J. (2011). Complete Guide to Fitness Testing. [online] Topend Sports, The Sport and Science Resource.



Read through the two six week cardio-vascular endurance training programmes shown in the datasheet.



- (b) (i) Evaluate the two training programmes shown above regarding their content and in relation to the information you have been given about Neil. [6]

- (ii) Based on your evaluation in b(i), identify which training programme is most suitable for Neil. [1]

- (c) (i) What target would you set for Neil when he retakes the fitness test for cardio-vascular endurance at the end of his 6-week training programme? Why would you set him this target? [2]

- (ii) Explain why the target set for Neil for when he retakes the fitness test for cardio-vascular endurance at the end of his 6-week training programme should be measurable. [2]

End of Question

Datasheet for Q2

| Training Programme A | | | Training Programme B | | |
|---|--|---------------|--|--|--|
| 1. 10 minute walk, 20 minute jog, 10 minute walk from house. 2. 20 minutes on a cycle ergometer at local leisure centre | | Week 1 | 1. 30 minute jog from house. 2. 30 minute jog from house. 3. 30 minute jog from house. | | |
| 1. 10 minute walk, 20 minute jog, 10 minute walk from house. 2. 20 minutes on a cycle ergometer at local leisure centre | | Week 2 | 1. 40 minute jog from house. 2. 40 minute jog from house. 3. 40 minute jog from house. | | |
| 1. 25 minute jog, 10 minute walk from house. 2. 20 minutes swimming at local leisure centre. | | Week 3 | 1. 50 minute jog from house. 2. 50 minute jog from house. 3. 50 minute jog from house. | | |
| 1. 25 minute jog, 10 minute walk from house. 2. 10 minutes on cross trainer and 15 minutes on cycle ergometer at local leisure centre. | | Week 4 | 1. 60 minute jog from house. 2. 60 minute jog from house. 3. 60 minute jog from house. | | |
| 1. 30 minute jog from house. 2. 15 minutes on rowing ergometer and 15 minutes on cycle ergometer at local leisure centre. | | Week 5 | 1. 70 minute jog from house. 2. 70 minute jog from house. 3. 70 minute jog from house. | | |
| 1. 30 minute jog from house. 2. 25 minutes swimming at local leisure centre. | | Week 6 | 1. 80 minute jog from house. 2. 80 minute jog from house. 3. 80 minute jog from house. | | |

1. Normative data for Sit and Reach Flexibility Test (cm)

| Category | Result (cms) |
|-----------|--------------|
| Excellent | $\geq +16$ |
| Good | +6 to +16 |
| Average | 0 to +5 |
| Fair | -8 to -1 |
| Poor | -20 to -9 |
| Very Poor | ≤ -20 |

2. Normative data for Bleep Test (Level/shuttle)

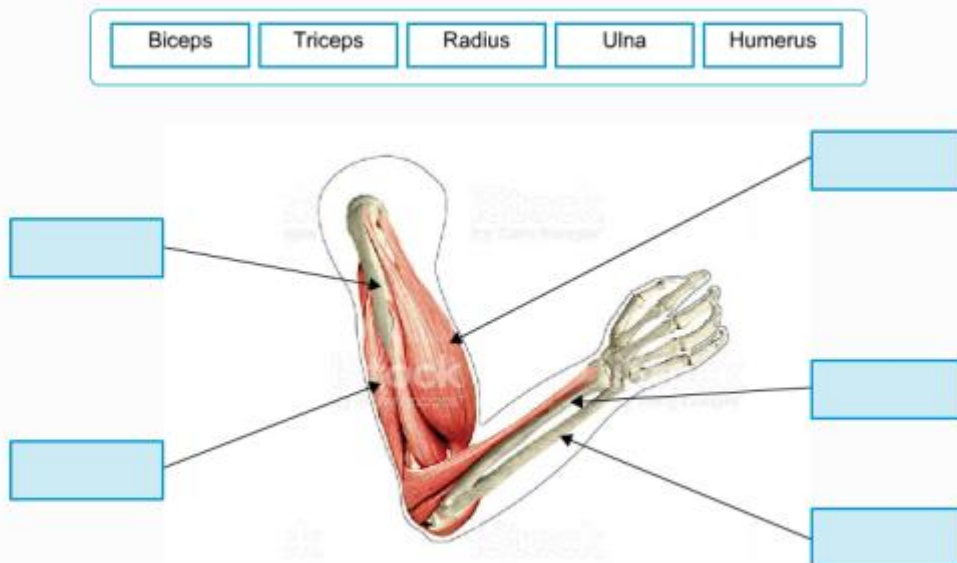
| Category | 26 - 35 years | 36 - 45 years | 46 - 55 years |
|-----------|---------------|---------------|---------------|
| Excellent | $\geq 10/6$ | $\geq 8/9$ | $\geq 7/7$ |
| Good | 8/10 - 10/6 | 7/8 - 8/9 | 6/7 - 7/7 |
| Average | 7/10 - 8/9 | 6/5 - 7/7 | 5/6 - 6/6 |
| Fair | 6/6 - 7/9 | 5/4 - 6/4 | 4/7 - 5/5 |
| Poor | 5/2 - 6/5 | 3/8 - 5/3 | 3/6 - 4/6 |
| Very Poor | ≤ 5.2 | ≤ 3.8 | $\leq 3/6$ |

3. Normative data for 1 Rep Max (ratio of body weight)

| Category | 26 - 35 years |
|-----------|---------------|
| Excellent | ≥ 1.60 |
| Good | 1.30 to 1.60 |
| Average | 1.15 to 1.29 |
| Fair | 1.00 to 1.14 |
| Poor | 0.91 to 0.99 |
| Very Poor | ≤ 0.90 |

3. (a) (i) Use drag and drop to label the following muscles and bones on the diagram.

[5]



(ii) Name the muscle that contracts when the weight is lifted in the image below.

[1]

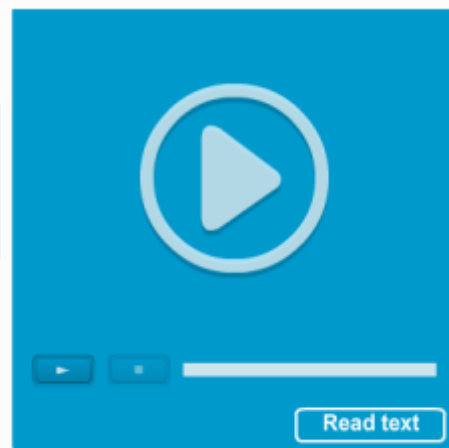


Name the muscle that contracts when the weight is lowered in the image above.

[1]

(b) Describe a warm up that you would undertake before taking part in a training session for a sporting activity of your choice.

[3]



- (c) (i) Match the Principle of Training to the correct definition. Match the correct definition to the Principle of Training by creating a link. Click a box on the left and then a box on the right. To remove a link, click on a line. [4]

| | |
|-------------|---|
| Specificity | You must work harder to allow your body to adapt and improve. This is possible by varying the frequency, intensity, time or type of training. |
| Progression | Use a variety of training methods (or exercises) to avoid boredom in training. |
| Overload | Training must be matched to the needs and demands of the activity. |
| Variance | Your training should start slowly and gradually increase the amount of exercise. |

- (ii) Using examples from a sporting activity of your choice, explain how a coach could apply the four Principles of Training to a training programme. [4]

Specificity

Progression

Overload

Variance

End of Question

4.



- (a) (i) When we exercise, some changes take place in our body very quickly. These are called 'the short term effects of exercise.'

Analyse the short-term effects of exercise that take place in the Cardio-Respiratory system.

[6]

- (ii) Other changes, or adaptations, take place in our body over a much longer period of time. These are called 'the long term effects of exercise.'

Describe **two** long term effects of exercise that take place in the Muscular-Skeletal system.

[2]

- (iii) Explain how the intensity and duration of exercise relate to the long term adaptations that take place in the body.

[2]

- (b) During a football match your body will work at a range of intensities. These will vary from walking, to kicking the ball, striding to jumping.



Player walking while the ball is out of play.



Player striding with the ball.



Player jumping and heading the ball.

Match the activity described to the energy system you will use for that activity.

[4]

1. A goal keeper taking a goal kick and kicking the ball as far as he can down field.

Select an Option

2. A defender walking back in to position while the ball is out of play.

Select an Option

3. A midfield player running the length of the pitch, turning round and running straight back to his own penalty area.

Select an Option

4. A striker jumping to head the ball towards the goal.

Select an Option

(c)



Fitness testing is awful.
It always shows me
how unfit I am.



Fitness testing is a very
important part of any
training programme.

Discuss why fitness testing is important in the improvement of performance.

[8]

End of Question

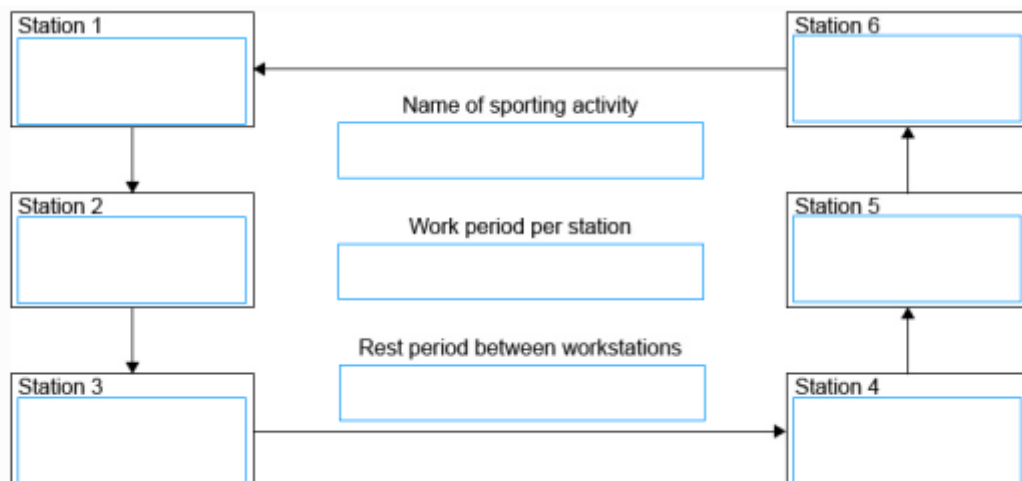
5. (a) Explain how oxygen enters the body.

[2]



(b) (i) Circuit training can be adapted to meet the requirements of most sporting activities. Design a circuit for a sporting activity of your choice.

[3]



(ii) Analyse the ways in which your circuit is specific to your chosen sporting activity.

[4]

(c) Assess the importance of setting appropriate short term targets to help achieve long term goals.

[3]

End of Question

Datasheet 1

| 1. Normative data for Body Mass Index (kg/m ²) | | | | |
|--|--------------------------|--------------------|--------------------------|---------------|
| Classification | BMI (kg/m ²) | Sub-classification | BMI (kg/m ²) | |
| underweight | < 18.50 | severe thinness | < 16.00 | |
| | | moderate thinness | 16.00 - 16.99 | |
| | | mild thinness | 17.00 - 18.49 | |
| normal range | 18.5 - 24.99 | normal | 18.5 - 24.99 | |
| overweight | ≥ 25.00 | pre-obese | 25.00 - 29.99 | |
| | | obese (≥ 30.00) | obese class I | 30.00 - 34.99 |
| | | | obese class II | 35.00 - 39.99 |
| | | | obese class III | (≥ 40.00) |

Datasheet 2

| 2. Normative data for Sit and Reach Flexibility Test (cm) | | | | |
|---|------------|---------------|------------|---------------|
| | men | | women | |
| | cm | inches | cm | inches |
| super | < +27 | < +10.5 | < +30 | < +11.5 |
| excellent | +17 to +27 | +6.5 to +10.5 | +21 to +30 | +8.0 to +11.5 |
| good | +6 to +16 | +2.5 to +6.0 | +11 to +20 | +4.5 to +7.5 |
| average | 0 to +5 | 0 to +2.0 | +1 to +10 | +0.5 to +4.0 |
| fair | -8 to -1 | -3.0 to -0.5 | -7 to 0 | -2.5 to 0 |
| poor | -20 to -9 | -7.5 to -3.5 | -15 to -8 | -6.0 to -3.0 |
| very poor | < -20 | < -7.5 | < -15 | < -6.0 |

Datasheet 3

| 3. Normative data for Bleep Test (Level/shuttle) | | | | | | | |
|--|-----------|-----------|-----------|------------|-------------|--------------|-----------|
| | very poor | poor | fair | average | good | very good | excellent |
| 16 - 17 yrs | < 5/1 | 5/1 - 6/8 | 6/9 - 8/2 | 8/3 - 9/9 | 9/10 - 11/3 | 11/4 - 13/7 | > 13/7 |
| 18 - 25 yrs | < 5/2 | 5/2 - 7/1 | 7/2 - 8/5 | 8/6 - 10/1 | 10/2 - 11/5 | 11/6 - 13/10 | > 13/10 |
| 26 - 35 yrs | < 5/2 | 5/2 - 6/5 | 6/6 - 7/9 | 7/10 - 8/9 | 8/10 - 10/6 | 10/7 - 12/9 | > 12/9 |
| 36 - 45 yrs | < 3/8 | 3/8 - 5/3 | 5/4 - 6/4 | 6/5 - 7/7 | 7/8 - 8/9 | 7/8 - 9/5 | > 11/3 |
| 46 - 55 yrs | < 3/6 | 3/6 - 4/6 | 4/7 - 5/5 | 5/6 - 6/6 | 6/7 - 7/7 | 7/8 - 9/5 | > 9/5 |
| 56 - 65 yrs | < 2/7 | 2/7 - 3/6 | 3/7 - 4/8 | 4/9 - 5/6 | 5/7 - 6/8 | 6/9 - 8/4 | > 8/4 |
| > 65 yrs | < 2/2 | 2/2 - 2/5 | 2/6 - 3/7 | 3/8 - 4/8 | 4/9 - 6/1 | 6/2 - 7/2 | > 7/2 |

Datasheet 4

| 4. Normative data for 1 Rep Max (ratio of body weight) | |
|--|----------------------------|
| Rating | Score (per body weight) |
| Excellent | > 1.60 |
| Good | 1.30 - 1.60 |
| Average | 1.15 - 1.29 |
| Below Average | 1.00 - 1.14 |
| Poor | 0.91 - 0.99 |
| Very Poor | < 0.90 |

Unit 2: Fitness for Sport
Sample Examination Mark Scheme

Question 1

(a) Match the function of the body system to the name: (LO1 1.2) 3 marks.

| | | |
|---------------------------|--------------------------|-----------------------|
| Cardio-Respiratory System | Muscular-Skeletal System | Aerobic Energy System |
|---------------------------|--------------------------|-----------------------|

Drag and drop question

This system provides form, support, stability, and movement to the body.

Muscular-Skeletal System

This system produces the largest amounts of energy, although at the lowest intensity.

Aerobic Energy System

This system includes the uptake of oxygen through breathing.

Cardio-Respiratory System

- (b) (i) For these two athletic events, choose the component of fitness that you think is most important to them. State the definition of the components of fitness you have chosen and explain why you have chosen them and how they are used by the athletes during their performances. **You must choose a different component of fitness for each athletic event.** (LO2 2.1) 8 marks.

1 mark for naming each component of fitness.

1 mark for definitions of the components of fitness chosen.

1 mark for explaining how the components of fitness are used in performance.

For example, speed is used by a sprinter to cover the race distance as quickly as possible, or, power is used by the shot putter to achieve the greatest distance.

1 mark is available for amplification in each explanation.

- (ii) Select a training method for each of the components of fitness that you have written about in b (i). Explain why you have chosen these training methods. (LO3 3.2) 6 marks.

No mark for naming training method. 3 marks are available for description of each training method. This might include a description of a training session.

1, 2 or 3 marks can be awarded depending on depth of answer, relevance to improving speed and amplification.

- (c) Fitness tests are often used to measure a sportsperson's level of fitness in different components of fitness. Assess the importance of validity and reliability when carrying out fitness tests. (LO2 2.2) 3 marks.

Reliability: A test is considered reliable if the results are consistent and can be reproduced. You should be able to obtain the same or similar result on two separate trials. This is important as you are often looking for small changes in scores, and you want the difference in results to reflect the changes in fitness of the person and not an error in measurement. Some of the errors in recording of tests results can come about from poor following of the test protocols, equipment error, and variability in environmental conditions and/or surfaces. Reliability can be improved by greater control of these variables, and by using competent and well trained test.

Validity: Validity is whether the tests actually measure what they set out to. It is quite possible that a test can be very reliable but not valid.

1 mark for an assessment of reliability and validity with 1 mark available for amplification of either explanation. Answer should focus on the implications and benefits of validity and reliability on fitness tests.

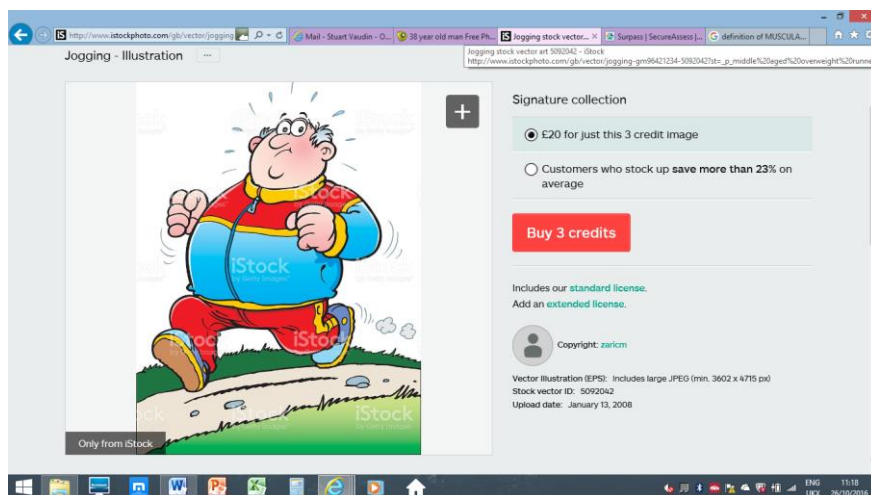
Question 2

My name is Neil. I am 38. I work eight hours a day in an office based role. Five months ago, I was promoted and the added responsibilities have increased my stress levels and I often have to work longer hours or take work home. My evenings are mainly spent at home with my family. I own a car and live close to a leisure centre. I live in an area where, within a ten minute walk, there is open countryside.

Playing Rugby is an important part of my weekend leisure time and I play for a local team on a Saturday. Recently, I have been unable to attend the mid-week training session, due to work commitments. In the last few weeks, I have found it difficult to play the full 80 minutes of a game. Last week I was a substitute.

I have recently put on weight. My workload is now more settled. I was very disappointed at being substitute for the rugby team and I am worried that I won't enjoy my planned summer holiday. I want to become fitter but can get bored during long exercise sessions.

I have taken some tests of my health and fitness and the results are shown below. I want a 6 week training plan to prepare for my holiday and to get back into the first team.



- (a) (i) Identify four personal factors that Neil will have to consider before he starts his new training programme. (LO3 3.3) 4 marks.

Answer could include reference to Neil's health, fitness levels, age, gender, lifestyle or time available to exercise.

Marks are 4 x 1 for 4 points made.

Neil's Fitness Test Results

| Fitness Test | Test Result |
|--------------------------------|-------------------|
| Sit and Reach Flexibility Test | +2cm |
| Bleep Test | Level 5 Shuttle 2 |
| 1 Rep Max Bench Press | 65 kg |
| Weight | 95 kg |

- (ii) Neil completed a number of fitness tests before starting his new training programme. Compare Neil's results to the norm tables provided and state which category Neil has reached for each test. (LO2 2.2) 3 marks.

| Fitness Test | Test Result | Category |
|--------------------------------|-------------------|------------------|
| Sit and Reach Flexibility Test | +2cm | Average |
| Bleep Test | Level 5 Shuttle 2 | Poor |
| 1 Rep Max Bench Press | 65 kg | Very Poor |
| Weight | 95 kg | |

1 mark for each correct answer.

Normative Data

All normative data used have been cited in: Wood, R.J. (2011). Complete Guide to Fitness Testing. [online] Topend Sports, The Sport and Science Resource.

1. Normative data for Sit and Reach Flexibility Test (cm)

| Category | Result (cms) |
|-----------|--------------|
| Excellent | ≥ +16 |
| Good | +6 to +16 |
| Average | 0 to +5 |
| Fair | -8 to -1 |
| Poor | -20 to -9 |
| Very Poor | ≤ -20 |

2. Normative data for Bleep Test (Level/shuttle)

| Category | 26 - 35 Years | 36 - 45 Years | 46 - 55 Years |
|-----------|---------------|---------------|---------------|
| Excellent | $\geq 10/6$ | $\geq 8/9$ | $\geq 7/7$ |
| Good | 8/10 - 10/6 | 7/8 - 8/9 | 6/7 - 7/7 |
| Average | 7/10 - 8/9 | 6/5 - 7/7 | 5/6 - 6/6 |
| Fair | 6/6 - 7/9 | 5/4 - 6/4 | 4/7 - 5/5 |
| Poor | 5/2 - 6/5 | 3/8 - 5/3 | 3/6 - 4/6 |
| Very Poor | ≤ 5.2 | ≤ 3.8 | $\leq 3/6$ |

3. Normative data for 1 Rep Max (ratio of body weight)

| Category | Score (per body weight) |
|-----------|----------------------------|
| Excellent | ≥ 1.60 |
| Good | 1.30 to 1.60 |
| Average | 1.15 to 1.29 |
| Fair | 1.00 to 1.14 |
| Poor | 0.91 to 0.99 |
| Very Poor | ≤ 0.90 |

Read through the two six week cardio-vascular endurance training programmes shown below.

| Training Programme A | | Training Programme B |
|---|---------------|--|
| 1. 10 minute walk, 20 minute jog, 10 minute walk from house. 2. 20 minutes on cycle ergometer at local leisure centre. | Week 1 | 1. 30 minute jog from house. 2. 30 minute jog from house. 3. 30 minute jog from house. |
| 1. 10 minute walk, 20 minute jog, 10 minute walk from house. 2. 20 minutes on rowing ergometer at local leisure centre. | Week 2 | 1. 40 minute jog from house. 2. 40 minute jog from house. 3. 40 minute jog from house. |
| 1. 25 minute jog, 10 minute walk from house. 2. 20 minutes swimming at local leisure centre. | Week 3 | 1. 50 minute jog from house. 2. 50 minute jog from house. 3. 50 minute jog from house. |
| 1. 25 minute jog, 10 minute walk from house. 2. 10 minutes on cross trainer and 15 minutes on cycle ergometer at local leisure centre. | Week 4 | 1. 60 minute jog from house. 2. 60 minute jog from house. 3. 60 minute jog from house. |
| 1. 30 minute jog from house. 2. 15 minutes on rowing ergometer and 15 minutes on cycle ergometer at local leisure centre. | Week 5 | 1. 70 minute jog from house. 2. 70 minute jog from house. 3. 70 minute jog from house. |
| 1. 30 minute jog from house. 2. 25 minutes swimming at local leisure centre. | Week 6 | 1. 80 minute jog from house. 2. 80 minute jog from house. 3. 80 minute jog from house. |

- (b) (i) Evaluate the two training programmes shown below in relation to the information you have been given about Neil. (LO4 4.2, LO3 3.3) 4 marks/2 marks. Total: 6 marks.

1 – 2 marks: Basic comments containing a basic level of detail concerning the logical order, timescale and progression of the two training programmes.

3 – 4 marks: More detailed comments containing a greater level of detail concerning the logical order, timescale and progression of the two training programmes.

1 – 2 marks: Awarded for the evaluation of the training programmes in relation to Neil's specific situation. For example, his proximity to a leisure centre and his dislike of long training sessions.

- (ii) Based on your evaluation in b(i), identify which training programme is most suitable for Neil. (LO4 4.2) 1 mark.

Training programme A. 1 mark.

- (c) (i) What target would you set for Neil when he retakes the fitness test for cardio-vascular endurance at the end of his 6-week training programme? Why would you set him this target? (LO4 4.1) 2 marks.

1 mark for achievable and realistic target for the Beep Press test based on Neil's previous result of Level 5 Shuttle 2 and the training programme he will have undertaken.. The target should be between Level 6 and Level 9.

- (ii) Explain why the target set for Neil for when he retakes the fitness test for cardio-vascular endurance at the end of his 6-week training programme should be measurable. (LO4 4.1) 2 marks.

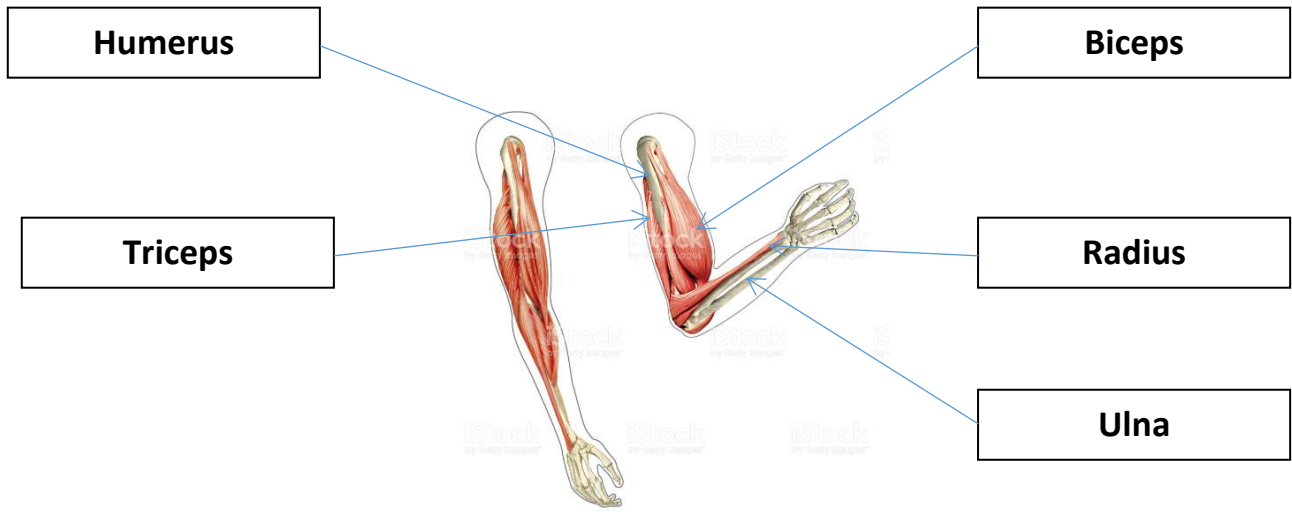
1-2 marks for explaining the importance of the target being measurable so that Neil can compare his two test results to see whether he has improved or not.

Question 3

- (a) (i) Label the following muscles and bones on the diagram shown below. (LO1 1.1) 5 marks.

Drag and drop question.

| | | | | |
|--------|---------|--------|------|---------|
| Biceps | Triceps | Radius | Ulna | Humerus |
|--------|---------|--------|------|---------|



1 mark for each correct answer.

- (ii) Name the muscle that contracts when the weight is lifted in the video. (LO1 1.1) 1 mark.

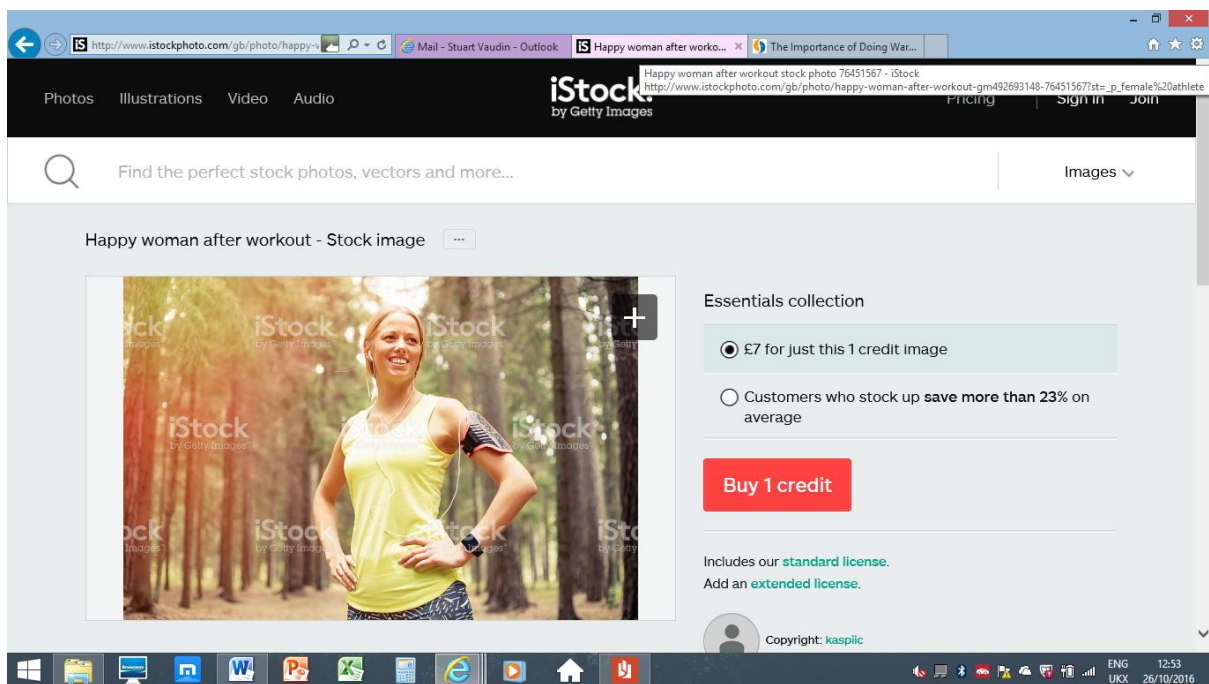
Biceps. 1 mark.

Name the muscle that contracts when the weight is lowered in the video. (LO1 1.1) 1 mark.

Triceps. 1 mark.

(b)

The importance of warm up exercises can be compared to driving your car in freezing cold weather. It is generally best to allow your car to warm up a bit before revving it up to high speeds. The same principle applies when you work out. You want to physically prepare your body for the demands of a strenuous workout by gradually increasing your body temperature. Warm up exercises are also important as a form of mental preparation. Your mind can ease into the workout.



Describe a warm up that you would undertake before taking part in a training session for a sporting activity of your choice. (LO3 3.3) 3 marks.

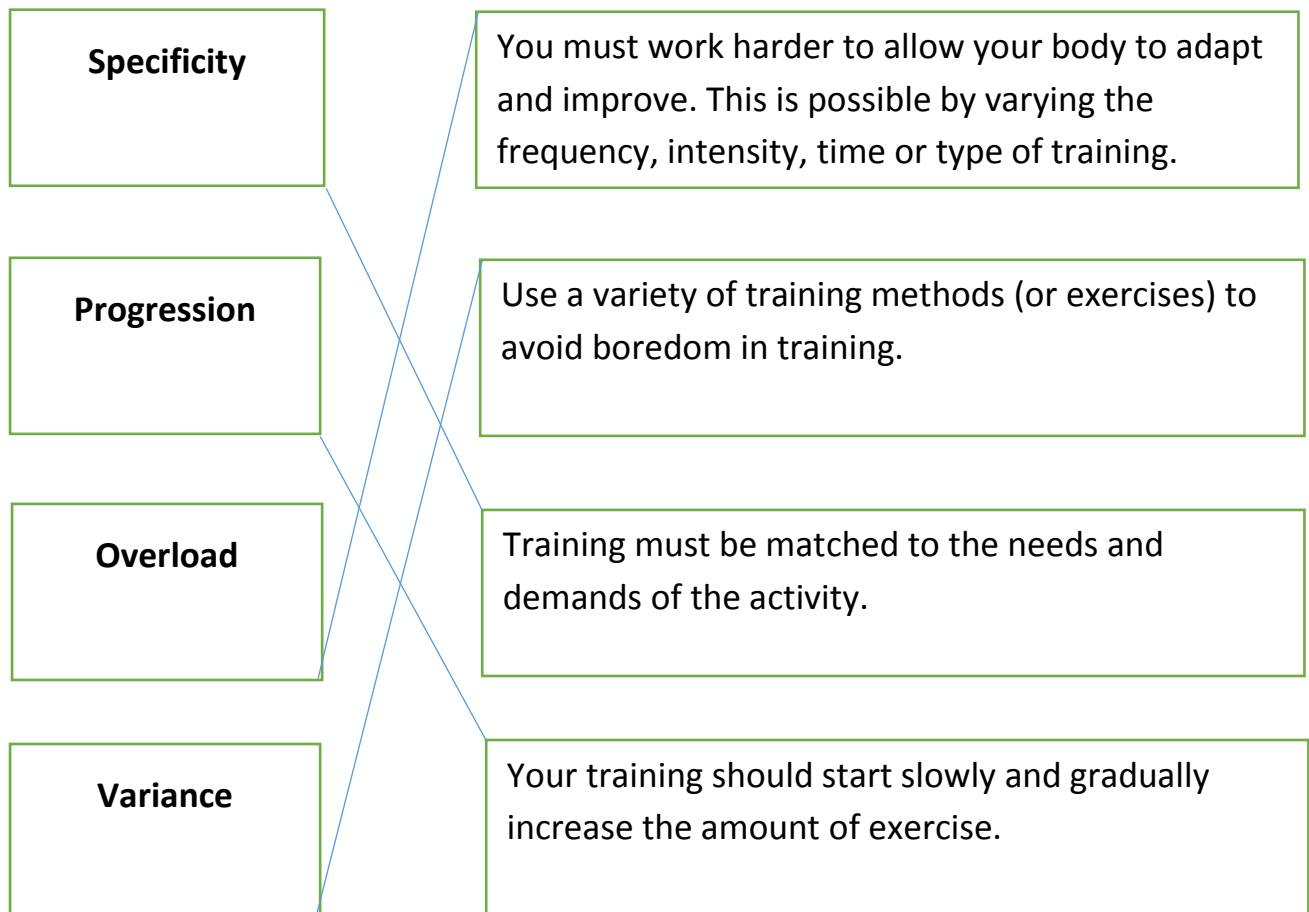
Candidate must write about a warm up that relates directly to their chosen sporting activity. Their answer should make reference to some or all of these parts of a warm up:

- Some form of cardio-vascular exercise to raise body temperature.
- Some form of stretching of specific muscle groups.
- A skills session relevant to the activity.
- Some form of mental preparation.

Marks could be 3 x 1 for 3 points made or 1 + 1 x 2 if one point is amplified. A maximum of 1 mark can be awarded for an answer that does not refer to a specific sporting example.

- (c) (i) You must ensure that all your training sessions take the Principles of Training in to account so that they are effective and will improve your fitness levels. (LO3 3.1)

Match the Principle of Training to the correct definition. Match the correct definition to the Principle of Training by drawing 4 lines.



1 mark for each correct line.

- (ii) Using examples from a sporting activity of your choice, explain how a coach could apply the four Principles of Training to a training programme. (LO3 3.3)
4 marks

1 mark for application of Specificity, Progression, Overload and Variance. No marks can be awarded if there is no reference to a chosen sporting activity.

Question 4

- (a) (i) When we exercise, some changes take place in our body very quickly. These are called, 'the short term effects of exercise.'

Analyse the short-term effects of exercise that take place in the Cardio-Respiratory system. (LO1 1.3) 6 marks.

Candidates may include analysis of some or all of the following points in their answer:

Increased heart rate due to the heart having to work harder to pump oxygenated blood around the body.
Increased breathing rate, in order to supply more oxygen to working muscles and remove carbon dioxide.
Increased blood flow.
Increased cardiac output to get oxygenated blood to working muscles (due to increased heart rate and stroke volume).
As muscular activity increases, the production of carbon dioxide increases resulting in an increase in Tidal Volume (Tidal Volume is the amount of air inhaled and exhaled with each breath).

1 – 2 marks: Basic answer containing a basic level of detail covering few of the points listed above.

3 – 4 marks: More detailed answer containing a reasonable level of detail covering several of the points listed above.

5 – 6 marks: Detailed answer containing a good level of detail covering most of the points listed above.

- (ii) Other changes, or adaptations, take place in our body over a much longer period of time. These are called, 'the long term effects of exercise.'

Describe **two** long term effects of exercise that take place in the Muscular-Skeletal system. (LO1 1.4) 2 marks.

Candidates may include descriptions of two of the following points in their answer:

Hypertrophy (increased muscle size).
Increase in bone density (bone strength) due to increase in calcium production.
Stronger connective tissues (ligaments and tendons), so more resistant to injury.
Elasticity of muscles.
Increased stability of joints.
Increased thickness of hyaline cartilage.
Skeletal muscles adapt to using more oxygen, the muscles and their capillaries become more efficient and can therefore work for a longer period of time.
Increased number of mitochondria.
Decreased risk of osteoporosis.
Improved posture.

1 mark available for an accurate description of each of the points selected.

- (iii) Explain how the intensity and duration of exercise relate to the long term adaptations that take place in the body. (LO1 1.4) 2 marks.

1 mark for an explanation of how the intensity of exercise can lead to greater long term adaptations in the body such as muscle hypertrophy.

1 mark for an explanation of how the duration of exercise can lead to greater long term adaptations in the body such as a lower resting heart rate.

- (b) During a football match your body will work at a range of intensities. These will vary from walking, to kicking the ball, striding to jumping.

Match the activity described to the energy system you will use for that activity. (LO1 1.1) 4 marks.

1. A goal keeper taking a goal kick and kicking the ball as far as he can down field: ATP-PC system.
2. A defender walking back in to position while the ball is out of play: Aerobic system.
3. A midfield player running the length of the pitch, turning round and running straight back to his own penalty area: Anaerobic system.
4. A striker jumping to head the ball towards the goal: ATP-PC system.

1 mark for each correct answer.

- (c) Discuss why fitness testing is important in the improvement of performance. (LO2 2.3) 8 marks.

Candidates must engage with the positives and negatives of fitness testing as an important factor in the improvement of performance.

Positives may include:

- To motivate sportsperson or set individual goals.
- To review an existing training programme.
- To monitor and show improvement since previous test.
- To compare to national averages, standards or norm tables.
- To identify strengths or weaknesses.
- To re-evaluate needs in training.
- To compare players in a squad or team.

Negatives may include:

- Tests are not sports specific.
- Tests may not be carried out in a valid.
- Results may not be reliable.
- Results may not be 100% accurate.
- Performer may not produce maximum effort during the tests due to a lack of motivation.
- Results can demotivate the performer if they are poor.
- Results can highlight previously identified weaknesses and embarrass performer.

1 - 2 marks: Candidates answer lacking in detail and focused on one side of the discussion.

3 – 4 marks: Candidates answer contains some detail but is still more focused on one side of the discussion.

5 – 6 marks: Candidates answer includes a good level of detail and engages with the positive and negative sides of the discussion.

7 – 8 marks: Candidates answer includes an excellent level of detail and engages in depth with the positive and negative sides of the discussion.

Question 5

- (a) Explain how oxygen enters the body. (LO1 1.2) 2 marks.

1 – 2 marks available depending on the depth of the candidate's explanation. Their answer may include the following points:

Oxygen is breathed in to the lungs.

The oxygen then passes through the alveoli and enters the bloodstream.

- (b) (i) Circuit training can be adapted to meet the requirements of most sporting activities. Design a circuit for a sporting activity of your choice. (LO3 3.2) 4 marks.

There are no marks for naming a sporting activity and no marks can be awarded if the candidate does not name a sporting activity.

1 mark is available for a realistic work period per station and rest period between stations. Both these figures must be given for the mark to be awarded.

3 marks are available for the detail of the six exercise stations given by the candidate. This information should include details of the exercises. Marks can also be awarded if the exercises are logically sequenced.

- (ii) Analyse the ways in which your circuit is specific to your chosen sporting activity. (LO 3 3.1) 4 marks.

1 – 2 marks: Basic comments containing a basic level of analysis concerning how the circuit is specific to the chosen sporting activity..

3 – 4 marks: More detailed comments containing a greater level of analysis concerning how the circuit is specific to the chosen sporting activity.

- (c) Assess the importance of setting appropriate short term targets to help achieve long term goals. (LO4 4.1) 3 marks.

Answers could include the following points:

Short term targets are stepping stones to the long term goal.

Short term targets are more attainable and realistic.

Successfully achieving a short term target can increase motivation and focus towards the long term goals.

Short term targets can be modified to suit the performer in their pursuit of their long term goal.

Short term targets can be used to continually challenge the performer.

Marks could be 3 x 1 for 3 points made or 1 + 1 x 2 if one point is amplified.