

# PiXL Independence:

## PE – Student Booklet

KS5

### Exercise Physiology

#### Contents:

- I. Quizzes – 10 credits each
- II. Reading Task – 50 credits
- III. Research Task – 80 credits
- IV. Website Task – 80 credits
- V. Long Answer Questions – 100 credits
- VI. Videos – 50 credits

## I. Quizzes

Complete the quizzes. *10 credits each.*

### Multiple Choice Quiz

#### Diet and nutrition and their effect on physical activity and performance

1. Which of the following vitamins is soluble in water? **(1)**

- A
- C
- E
- K

2. Which of the following is an example of a protein food? **(1)**

- Fish
- Pasta
- Orange
- Avocado

3. Which class of food is most important for a marathon runner? Give reasons for your answer. **(2)**

4. Shot putters need strength to be able to generate power when putting the shot. State two classes of food that are most suitable for shot putters who require strength, and explain why these are needed in their diet. **(3)**

5. Discuss the positive and negative effects that glycogen loading can have on an athlete. **(4)**

6. Outline two different methods athletes use to supplement their diet. **(4)**

7. Analyse the importance of a balanced diet to a sports performer. How would the diet be adapted for a footballer? Evaluate the use of supplements to support the diet of a football player. **(8)**

## **Preparation and training methods in relation to maintaining physical activity and performance**

1. Which of the following terms best describes validity? **(1)**

- When the test can be repeated accurately
- When the test actually measures what it sets out to do
- When the test can be completed easily
- When the test matches the physical activity

2. What is ballistic stretching? **(1)**

- Stretching occurs with help from an external force
- Stretching whilst not moving
- Stretching with swinging or bouncing movement
- Stretching by pushing the joint beyond the joint of resistance

3. Explain two physiological effects of completing a warm up. **(2)**

4. Describe two training methods which allow the participant to improve aerobic endurance. **(4)**

5. Describe how you would use the SPORR principles to improve fitness. **(5)**

6. Explain the difference between quantitative and qualitative data. **(4)**

7. Evaluate the use of periodisation as part of an elite performer's training programme. Use a sporting example to justify your answer. **(8)**

## **Injury prevention and the rehabilitation of injury**

1. Which of the following is not an acute injury? **(1)**

- Dislocations
- Strains
- Fractures
- Tennis Elbow

2. What does ECG stand for? **(1)**

- Electrocardiogram
- Electric Control Graph
- Electrocardiograph
- Electricardiogrid

3. Describe two different recovery methods that can be used after exercise? **(4)**

4. How does cryotherapy help to rehabilitate injuries? **(3)**

5. Outline what happens when a person gets tennis elbow. **(2)**

6. Why is nutrition important for recovery? **(3)**

7. Evaluate injury prevention methods used in sport, providing sporting examples to justify your answer. **(8)**

## II. Reading Task

Choose a scholarly article from the list below. Summarise the key ideas within the article – ideally in ten points. Create 5 questions relating to both the article and your specification.

*50 credits.*

[https://www.researchgate.net/profile/Eric-Doucet/publication/12015767\\_Impact\\_of\\_high-intensity\\_exercise\\_on\\_energy\\_expenditure\\_lipid\\_oxidation\\_and\\_body\\_fatness/links/00463533ad59054deb000000/Impact-of-high-intensity-exercise-on-energy-expenditure-lipid-oxidation-and-body-fatness.pdf](https://www.researchgate.net/profile/Eric-Doucet/publication/12015767_Impact_of_high-intensity_exercise_on_energy_expenditure_lipid_oxidation_and_body_fatness/links/00463533ad59054deb000000/Impact-of-high-intensity-exercise-on-energy-expenditure-lipid-oxidation-and-body-fatness.pdf)

<https://academic.oup.com/biomedgerontology/article/55/6/M309/2948065>

<http://www.tandfonline.com/doi/full/10.1080/02640414.2011.585473>

<https://jissn.biomedcentral.com/articles/10.1186/s12970-017-0195-6>

<https://www.muscletalk.co.uk/articles/article-methods-of-training.aspx>

[http://bjsm.bmj.com/content/44/Suppl\\_1/i50.2](http://bjsm.bmj.com/content/44/Suppl_1/i50.2)

[http://injuryprevention.bmj.com/content/8/suppl\\_4/iv22](http://injuryprevention.bmj.com/content/8/suppl_4/iv22)

### **III. Research Task**

Part 1: Select 4 main ideas within the text and produce a spider diagram of the main points and prior learning you know regarding key quotes from the text.

Part 2: Research and find an article which supports or disclaims the ideas in the original article. Write a paragraph to summarise your findings. In this paragraph you must provide a sporting example to support your findings.

Part 3: Draw upon examples from sport and real life occurrences to create your own newspaper article on the topic area.

*80 credits.*

#### IV. Website Task

Website task: Select a website and design a power point presentation you could give to a group of students just beginning the A Level PE course. Include on each slide key notes you could discuss.

*80 credits each.*

- Injury prevention and the rehabilitation of injury:  
[http://www.stopsportsinjuries.org/STOP/Prevent\\_Injuries/Our\\_Resources.aspx](http://www.stopsportsinjuries.org/STOP/Prevent_Injuries/Our_Resources.aspx)
- Diet and Nutrition: <https://formnutrition.com/inform/which-training-supplements-actually-work/>
- Training methods: <https://www.leadershipandsport.com/types-of-training-methods-of-training/>

## V. Long Answer Questions

Choose a longer answer question from the question bank below. Write a response to the question. You must include a plan of what you are going to include, a key word board and your final written answer, completed in full sentences and paragraphs.

*100 credits each.*

1. Explain the training methods that can be used to increase a performer's lactate threshold. **(15)**
2. Analyse the impact a healthy balanced diet can have on a football player and evaluate the use of dietary supplements to improve performance. **(15)**
3. Evaluate the process of 'periodisation' used within sports performance. Analyse the impact periodisation would have on a NBA basketball player. **(15)**
4. Explain factors that affect strength. Devise a six week training programme to improve strength. Explain how the programme would help to improve health and fitness. **(15)**
5. Define the term cardiovascular endurance. Using examples, explain factors that affect the cardiovascular endurance of a sports performer. Critically evaluate different types of training used to develop cardiovascular endurance. **(15)**



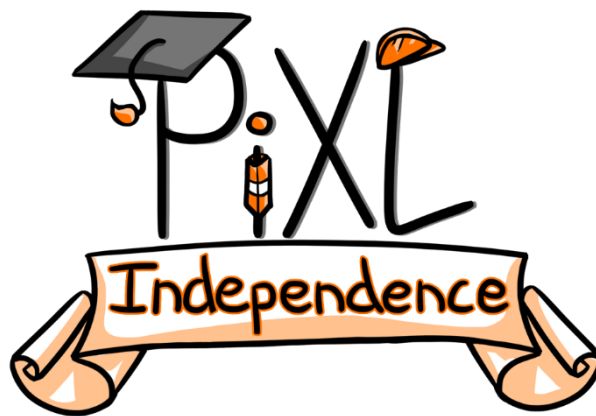
## **VI. Videos**

Produce a video that shows the use of the body in a practical way. The video must include key sporting examples and clear explanations of what is occurring within the video.

Try to include the whole unit topic in one video.

*50 credits per topic.*

- Diet and nutrition and their effect on physical activity and performance
- Preparation and training methods in relation to physical activity and performance
- Injury prevention and the rehabilitation of injury



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