Camden High School
Together we achieve

Year 12 PDHPE
Task #1: Factors Affecting Performance

TOPICS:	**MARKS:**
Core 1: Factors Affecting Performance	/20
SUBMISSION REQUIREMENTS:	**WEIGHTING:** 20%
Friday 24th November in class (Period 1)	

OUTCOMES TO BE ASSESSED:

H7 Explains **the relationship between** physiology and movement potential.

H8 **Explains** how a variety of training approaches and other interventions enhance performance and safety in physical activity

DIRECTIONAL VERBS:

Analyses **-** identify components and **relationship between them**; draw out and relate implications

Explains **-** relate cause and effect; make the relationships between things evident; provide why and/or how

TASK DESCRIPTION:

In class you will watch a video and complete two extended response questions within a single lesson.

- You will be required to watch the video and then answer Question 1. The video is of a particular sporting event/ sport. The video will be replayed another 2 times during the lesson.

Question 1: **(10 marks)**

Analyse the energy systems used in the athletics event seen in the video.

NB: The second question does not relate to the video.

Question 2: **(10 marks)**

Analyse how the principles of training can be applied to both aerobic and strength training to enhance performance.

ASSESSMENT CRITERIA:

You will be assessed on your ability to:

- Identify the energy systems that are being used in a specific athletics event.
- Describe the components of each energy system used in a specific athletics event and explain why each system is the predominant energy system providing ATP production at certain times during the event.
- Draw out implications to explain why each system is the predominant energy system at the time.
- Provide relevant examples that link the predominant energy systems being used and the specific times during the event it is providing most of the ATP production.
- Identify the principles of training.
- Describe each of the principles of training.
- Draw out and relates the implications of using the principles of training to enhance both aerobic and strength performance.
- Provide relevant examples that link the appropriate principles of training to the different types of aerobic and strength training.

How does training affect performance?

Students learn about:	Students learn to:
• energy systems • alactacid system (ATP/PC) • lactic acid system • aerobic system	• **analyse** each energy system by exploring: • source of fuel • efficiency of ATP production • duration that the system can operate • cause of fatigue • by-products of energy production • process and rate of recovery
• types of training and training methods • aerobic, eg continuous, Fartlek, aerobic, interval, circuit • anaerobic, eg anaerobic interval • flexibility, eg static, ballistic, PNF, dynamic • strength training, eg free/fixed weights, elastic, hydraulic	• **assess** the relevance of the types of training and training methods for a variety of sports by asking questions such as: • which types of training are best suited to different sports? • which training method(s) would be most appropriate? Why? • how would this training affect performance?
• principles of training • progressive overload • specificity • reversibility • variety • training thresholds • warm up and cool down	• **analyse** how the principles of training can be applied to both aerobic and resistance training
• physiological adaptations in response to training • resting heart rate • stroke volume and cardiac output • oxygen uptake and lung capacity • haemoglobin level • muscle hypertrophy • effect on fast/slow twitch muscle fibres	• **examine** the relationship between the principles of training, physiological adaptations and improved performance

Question 1 - ***Analyse*** the energy systems used in the athletics event seen in the video.

Marking Guidelines	Marks
• Identifies the components of the three energy systems used to produce ATP. • Provides characteristics and features of all three energy systems. • Identifies the relationship between and draws out implications of the predominant energy systems used in the Athletics event. • Extensively Analyse the energy system used in the athletic event and use detailed examples to support the implications of the predominant energy system being used and the time within the Athletics event it is being used.	**9-10**
• Identifies the components of the three energy systems used to produce ATP. • Provides characteristics and features of all three energy systems. • Analyses the cause and effect of the predominant energy systems used in the Athletics event. • Uses a relative example to support the implications of the predominant energy system being used and the time within the Athletics event it is being used.	**7-8**
• Identifies the components of the three energy systems used to produce ATP. • Provides characteristics and features of most/all of the energy systems used in the Athletics event. • Provides no cause and effect of the energy systems in the Athletics event. • Uses an example to support the implications of the energy system used in the Athletics event.	**5-6**
• Sketches in general terms information on the energy systems used in the Athletics event. • Uses no examples linked to the energy systems used in the Athletics event.	**3-4**
• Provides limited information on the energy systems used in the Athletics event.	**1-2**
• Does not attempt the question	**0**

Question 2 - **Analyse** how the principles of training can be applied to both aerobic and strength training.

Marking Guidelines	Marks
• Identifies all the principles of training. • Provides characteristics and features of all principles of training. • Extensively analyses how each principle of training can be applied to aerobic and strength training. • Uses detailed examples to support how the principles of training can be applied to a number of different aerobic and strength training methods.	**9-10**
• Identifies the principles of training. • Provides characteristics and features of most principles of training. • Thorough analysis of how each principle of training can be applied to aerobic and strength training. • Uses relevant examples to support how the principles of training can be applied to aerobic and strength training.	**7-8**
• Identifies some principles of training. • Provides characteristics and features of some principles of training. • Sound analysis on how each principle of training can be applied to aerobic and strength training. • Uses some examples to support how the principles of training can be applied to aerobic and strength training or uses relevant examples for how the principles of training can be applied to either aerobic or strength training.	**5-6**
• Sketches in general terms information about the principles of training and their link to aerobic and/or strength training. • Communicates ideas and information using few examples.	**3-4**
• Provides limited information on the principles of training and aerobic and strength training. • Fails to use examples.	**1-2**
• Does not attempt the question	**0**