

7

Holiday homework

Student Name: _____

Teacher: _____

Topic: Use and influence of science in sport.

Due date: Week 1 Term 3 2017

To help an athlete better their performance, a sports scientist will use knowledge from physics, engineering, psychology, science skills and the study of human motion. In sports a slight advantage of one athlete over the other could mean the difference between winning and losing.

You are required to investigate on the topic of how technology is used to give an athlete an advantage in sports. You may choose ONE of the possible topics listed below or a topic of your own.

Discuss how:

1. Athletes reduce friction in the air or water
2. Athletes keep the centre of gravity low in pole vaulting, high jumping or gymnastics
3. Engineering assist in the design of sports equipment (efficient bikes, lightweight rackets, flexible pole vaults)
4. A spin affects the trajectory of a kicked soccer ball

Present your findings in **a hand written or word typed report**. Your report must not be more than two to three pages long. You can use the questions as your headings and/or subheadings. You are free to use your textbook (**Chapter 7**), online resources and any other relevant resources that may assist you in completing this task. However you must use original language and NO copy and paste directly off the net.



Learning outcome

- Physical science sport

Human endeavour – Use and influence of Science in

1. A brief introduction on the role of sport scientists and their contribution to the industry.
2. Identify your chosen sport and provide examples of how technology has been used to give an athlete an advantage in that sport.
3. Explain how technology makes a difference to an athlete's performance? Outline TWO major advantages that can be made to improve an athlete's performance.
4. Discuss the cost and benefits of using this technology. Is this technology a failure or success? Give reasons to support your answer.
5. Do you think a sport scientist will always be able to improve on the performance of all athletes? Discuss.
6. Some sports scientists have pushed the boundaries too far by introducing athletes to banned performance enhancing drugs. What is your opinion on the use of performance enhancing drugs in sports? Discuss

Marking key		Total: ____/20	%
Item	Max marks	Marks obtained	
Q1 – Introduction	2		
Q2 – Examples	4		
Q3 – Advantages	4		
Q4 – Cost and benefit	2		
Q5 – Discussion	2		
Q6- Personal opinion	2		
Use of pictures/diagrams to enhance the poster	1		
Overall presentation	2		
Use of original language – no copy and paste	1		

Teacher comments: