HARRANGE HERRENGE SERVERS

91156M



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QUALIFY FOR THE FUTURE WORLD KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

Koiora, Kaupae 2, 2019

91156M Te whakaatu māramatanga ki ngā tukanga ora e pā ana ki te pūtau

9.30 i te ata Rātū 19 Whiringa-ā-rangi 2019 Whiwhinga: Whā

Paetae	Kaiaka	Kairangi
Te whakaatu māramatanga ki ngā tukanga ora e pā ana ki te pūtau.	Te whakaatu māramatanga hōhonu ki ngā tukanga ora e pā ana ki te pūtau.	Te whakaatu māramatanga matawhānui ki ngā tukanga ora e pā ana ki te pūtau.

Tirohia mēnā e rite ana te Tau Ākonga ā-Motu (NSN) kei runga i tō puka whakauru ki te tau kei runga i tēnei whārangi.

Me whakamātau koe i ngā tūmahi KATOA kei roto i tēnei pukapuka.

Mēnā ka hiahia whārangi atu anō koe mō ō tuhinga, whakamahia te (ngā) whārangi wātea kei muri o tēnei pukapuka, ka āta tohu ai i te tau tūmahi.

Tirohia mēnā e tika ana te raupapatanga o ngā whārangi 2–19 kei roto i tēnei pukapuka, ka mutu, kāore tētahi o aua whārangi i te takoto kau.

ME HOATU RAWA KOE I TĒNEI PUKAPUKA KI TE KAIWHAKAHAERE Ā TE MUTUNGA O TE WHAKAMĀTAUTAU.

TAPEKE

TŪMAHI TUATAHI: AHOTAKAKAME





www.tigtagworld.co.uk/film/parts-of-a-plant-PRM00096/

(a)) \	Whal	kaotik	nia te	whārite	kupu	ahota	kal	came	i	raro
-----	-----	------	--------	--------	---------	------	-------	-----	------	---	------

hauhā + wai \xrightarrow{aho} +

(b)	Whakaahuahia he	pēhea, A, kei	hea te urunga m	ai o te wai me te	hauhā ki te tipu
-----	-----------------	---------------	-----------------	-------------------	------------------

Wai:			
Hauhā:			
			

	3
QUE	ESTION ONE: PHOTOSYNTHESIS
	www.tigtagworld.co.uk/film/parts-of-a-plant-PRM00096/
(a)	Complete the photosynthesis word equation below:
	carbon dioxide + water $\xrightarrow{\text{light}}$ +
(b)	Describe how AND where water and carbon dioxide enter the plant.
	Water:

Carbon dioxide:

id carbon dioxide enter the plant.	
	_
	_
	_
	_
	_
	-
	-
Biology 91156, 2019	

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Matapakitia ngā āhuatanga e whai pānga ana ki ia wāhanga ME te take e hiahiatia ana ngā wāhanga e rua kia puta ai te rāpoi ngota kūhuka.		
Me whakauru ki roto i tō tuhinga:		
tētahi whakamāramatanga o te wāhanga tūrama-kore, me te wāhi e pā ai tēnei i roto i te pūtau		
	tētahi matapakinga o ngā āhuatanga e whakaawe ana i ia wāhanga.	
_		
_		

	otosynthesis consists of two phases: the light-dependent phase, and the light-independent ase.	ASS
	scuss the factors that affect each phase AND why both phases are required to form the acose molecule.	
In	your answer include:	
•	an explanation of the light-dependent phase, including where it occurs in the cell	
•	an explanation of the light-independent phase, including where it occurs in the cell	
•	a discussion of the factors that affect each phase.	

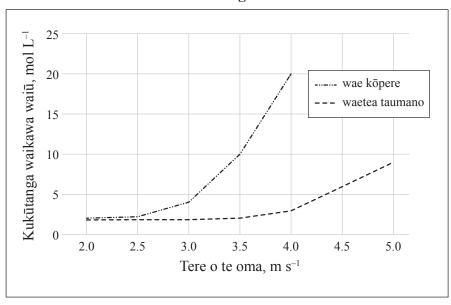
TŪMAHI TUARUA: TUKUPŪNGAO PŪTAU

MĀ TE KAIMĀKA ANAKE

(a) Whakaahuahia mai te wāhi e pā mai ai te tukupūngao hāora-kore ME te tukupūngao ā-hāora i roto i tētahi pūtau.

(b) Puta ai te tuku pūngao hāora-kore me te tukupūngao ā-hāora i ngā kaioma katoa.

Te ānau mahinga waikawa waiū



He mea urutau mai i: http://www.lactate.com/pitesbas.html

Tātarihia te kauwhata i runga ake ka matapaki he aha i puta mai ai i ngā momo oma rerekē ngā kukūtanga rerekē o te waikawa waiū.

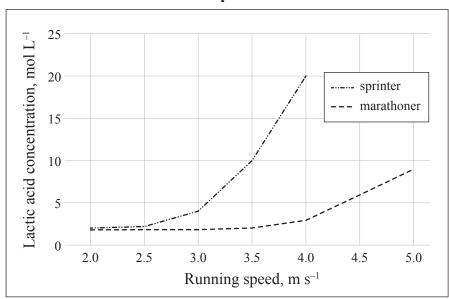
Me whakauru ki roto i tō tuhinga:

- tētahi whakamāramatanga o te tukupūngao hāora-kore ME te tukupūngao ā-hāora
- tētahi matapakinga o ngā painga ME ngā kino o te tukupūngao hāora-kore, ā-hāora hoki
- tētahi matapakinga he aha i whakaputaina e ngā wae kōpere me ngā waetea taumano ngā kukūtanga waikawa waiū rerekē. Whakamahia te kauwhata i runga ake hei tautoko i tō matapakinga.

(a) Describe where anaerobic AND aerobic respiration occur in a cell.

(b) Anaerobic and aerobic cell respiration are carried out by all runners.

Lactic acid performance curve



Adapted from http://www.lactate.com/pitesbas.html

Analyse the graph above and discuss why different types of running produce different concentrations of lactic acid.

In your answer include:

- an explanation of anaerobic AND aerobic respiration
- a discussion of the advantages AND disadvantages of anaerobic and aerobic respiration
- a discussion of why sprinters and marathon runners produce different concentrations of lactic acid. Use the graph above to support your discussion.

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TŪM	IAHI TUATORU: TE NEKENGA O NGĀ MATŪ ME TE MAHI A TE PŪMUA WHĀKŌKĪ	MĀ TE KAIMĀKA ANAKE
	Mātāpuna: http://mis.wlgsh.tp.edu.tw/bio/?p=117	
(a)	Whakamāramahia mai he pēhea te whakawhiti a ngā matū i ngā kiriuhi pūtau mā te ingotanga ME te ingotanga i takawaengatia.	
	Ka āhei koe ki te tuhi hoahoa hei tautoko mō tō tuhinga.	

Ka nekehia e ētahi pūmua whākōkī ngā katote konupora (Mg²-Kawea ai ngā katote Mg²+ mā te kawenga hohe. Whakaahuahia mai te hanganga me te mahi a te pūmua whākōukanga o te kawenga hohe.	
	Ka haere tonu te Tūmahi

QUE	ESTION THREE: MOVEMENT OF MATERIALS AND ENZYME FUNCTION	ASSESSOR'S USE ONLY
	Source: http://mis.wlgsh.tp.edu.tw/bio/?p=117	
(a)	Explain how materials cross cell membranes by diffusion AND facilitated diffusion. You may draw diagrams to support your answer.	

	ASS US
Some specific enzymes move magnesium ions (Mg^{2+}) across the cell membrane. Mg^{2+} ions are transported using active transport.	
Describe an enzyme's structure and purpose, AND explain the process of active transport.	-
	_
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	-
Question Three continues on page 15.	

(c)

	ki rō pūtau, ka whakamahia te katote konupora (Mwhākōkī kei roto i te tukuruatanga pītau ira.	[g ²⁺) hei āhuatanga-ngātahi e ērā atu	MĀ TE KAIMĀKA ANAKE				
Matapakitia ngā mutunga iho ki te pūtau mēnā ka huriāhuatia (denatured) ngā pūmua whākōkī kei roto i te tukuruatanga pītauira.							
Me whakauru ki roto i tō tuhinga:							
• he whakaahuatanga o te tikanga o te kupu "huriāhuatia"							
	e whakamāramatanga he aha e hiahiatia ana e ētah gātahi	pūmua whākōkī tētahi āhuatanga-					
	e matapakinga he pēhea te huriāhua o ngā pūmua v ūtau ki te pēnei.	vhākōkī ME ngā mutunga ki te					
		He wāhi anō mō tō tuhinga mō tēnei tūmahi kei te whārangi 16.					

	There is more space for your answer to this question on page 17.
	discussion of how enzymes become denatured AND the consequences to the cell if is occurs.
	explanation of why some enzymes require a co-factor
	description of what is meant by denature
enature	
iscuss	the consequences to the cell if the enzymes involved in DNA replication become
	side the cell, the magnesium ion (Mg^{2+}) is used as a co-factor by the other enzymes I in DNA replication.

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		He whārangi anō ki te hiahiatia.	
ТАИ ТŪМАНІ		Tuhia te (ngā) tau tūmahi mēnā e tika ana.	
TAO TOMATII	l		
1			

MĀTE
KAIMĀKA
ANAKE

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		Extra paper if required.	
		Write the question number(s) if applicable.	
QUESTION NUMBER		Time the question hamber(s) it approable.	
	1		

English translation of the wording on the front cover

Level 2 Biology, 2019

91156 Demonstrate understanding of life processes at the cellular level

9.30 a.m. Tuesday 19 November 2019 Credits: Four

Achievement	Achievement with Merit	Achievement with Excellence
Demonstrate understanding of life processes at the cellular level.	Demonstrate in-depth understanding of life processes at the cellular level.	Demonstrate comprehensive understanding of life processes at the cellular level.

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

You should attempt ALL the questions in this booklet.

If you need more space for any answer, use the page(s) provided at the back of this booklet and clearly number the question.

Check that this booklet has pages 2–19 in the correct order and that none of these pages is blank.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.